

FAIRBANKS TAF

Forecast for: PAFA (FAIRBANKS, AK, US)
Text: PAFA 121129Z 121212 VRB04KT P6SM SCT070 BKN100
Forecast period: 1200 UTC 12 April 2008 to 1200 UTC 13 April 2008
Forecast type: FROM: standard forecast or significant change
Winds: variable direction winds at 5 MPH (4 knots; 2.1 m/s)
Visibility: 6 or more miles (10+ km)
Ceiling: 10000 feet AGL
Clouds: scattered clouds at 7000 feet AGL
broken clouds at 10000 feet AGL
Weather: no significant weather forecast for this period

BARROW TAF

Forecast for: PABR (BARROW, AK, US)
Text: PABR 121445Z 121512 12005KT 2SM BR SCT001 SCT025
Forecast period: 1500 to 2000 UTC 12 April 2008
Forecast type: FROM: standard forecast or significant change
Winds: from the ESE (120 degrees) at 6 MPH (5 knots; 2.6 m/s)
Visibility: 2.00 miles (3.22 km)
Clouds: scattered clouds at 100 feet AGL
scattered clouds at 2500 feet AGL
Weather: BR (mist)
Text: TEMPO 1516 1/4SM FZFG BKN001
Forecast period: 1500 to 1600 UTC 12 April 2008
Forecast type: TEMPORARY: The following changes expected for less than half the time period
Visibility: 0.25 miles (0.40 km)
Ceiling: 100 feet AGL
Clouds: broken clouds at 100 feet AGL
Weather: FZFG (freezing fog)

Text: FM2000 11010KT P6SM SCT003
Forecast period: 2000 UTC 12 April 2008 to 1200 UTC 13 April 2008
Forecast type: FROM: standard forecast or significant change
Winds: from the ESE (110 degrees) at 12 MPH (10 knots; 5.2 m/s)
Visibility: 6 or more miles (10+ km)
Clouds: scattered clouds at 300 feet AGL
Weather: no significant weather forecast for this period

DEADHORSE TAF

Forecast for: PASC (DEADHORSE, AK, US)

Text: PASC 121129Z 121212 09004KT P6SM SCT001 BKN020 OVC080

Forecast period: 1200 to 2000 UTC 12 April 2008

Forecast type: FROM: standard forecast or significant change

Winds: from the E (90 degrees) at 5 MPH (4 knots; 2.1 m/s)

Visibility: 6 or more miles (10+ km)

Ceiling: 2000 feet AGL

Clouds: scattered clouds at 100 feet AGL

broken clouds at 2000 feet AGL

overcast cloud deck at 8000 feet AGL

Weather: no significant weather forecast for this period

Text: TEMPO 1216 4SM BR SCT001 SCT020

Forecast period: 1200 to 1600 UTC 12 April 2008

Forecast type: TEMPORARY: The following changes expected for less than half the time period

Visibility: 4 miles (6 km)

Clouds: scattered clouds at 100 feet AGL

scattered clouds at 2000 feet AGL

Weather: BR (mist)

Text: FM2000 10008KT P6SM BKN200

Forecast period: 2000 UTC 12 April 2008 to 1200 UTC 13 April 2008

Forecast type: FROM: standard forecast or significant change

Winds: from the E (100 degrees) at 9 MPH (8 knots; 4.2 m/s)

Visibility: 6 or more miles (10+ km)

Ceiling: 20000 feet AGL

Clouds: broken clouds at 20000 feet AGL

Weather: no significant weather forecast for this period

AKZ222-130530-

MIDDLE TANANA VALLEY-

INCLUDING...FAIRBANKS...FORT WAINWRIGHT...EIELSON AFB...ESTER...

NORTH POLE...MOOSE CREEK...TWO RIVERS...FOX...CHATANIKA...CHENA

HOT SPRINGS...SOURDOUGH CAMP

747 AM ADT SAT APR 12 2008

.TODAY...MOSTLY CLOUDY. PATCHY FOG AND FLURRIES. HIGHS 25 TO 35.

NORTHWEST WINDS 5 TO 15 MPH.

.TONIGHT...MOSTLY CLOUDY. PATCHY FOG AND FLURRIES. LOWS 5 TO

15 ABOVE. NORTHWEST WINDS 5 TO 10 MPH.

.SUNDAY...MOSTLY CLOUDY WITH A CHANCE OF RAIN AND SNOW IN THE
AFTERNOON. HIGHS 30 TO 40. LIGHT WINDS.

.SUNDAY NIGHT...SNOW LIKELY. LOWS 15 TO 20. SOUTH WINDS TO
10 MPH.

.MONDAY...MOSTLY CLOUDY WITH A CHANCE OF SNOW. HIGHS 25 TO 35.
SOUTHWEST WINDS 10 TO 20 MPH.

.MONDAY NIGHT...MOSTLY CLOUDY. CHANCE OF SNOW. LOWS NEAR 20.

.TUESDAY...MOSTLY CLOUDY. CHANCE OF SNOW. HIGHS NEAR 25.

.TUESDAY NIGHT...MOSTLY CLOUDY. LOWS NEAR 10 ABOVE.

.WEDNESDAY...MOSTLY CLOUDY. HIGHS NEAR 30.

.WEDNESDAY NIGHT...MOSTLY CLOUDY. LOWS NEAR 15.

.THURSDAY...PARTLY CLOUDY. HIGHS NEAR 35.

.THURSDAY NIGHT...MOSTLY CLOUDY. LOWS NEAR 15.

.FRIDAY...MOSTLY CLOUDY. HIGHS NEAR 35.

&&

TEMPERATURE / PRECIPITATION

FAIRBANKS 32 11 37 / 0 0 30

FXAK69 PAFG 121029

AFDAFG

NORTHERN ALASKA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE FAIRBANKS AK
229 AM ADT SAT APR 12 2008

.DISCUSSION...

MODELS IN DECENT AGREEMENT THROUGH AT LEAST FIRST 72 HOURS. GULF OF ALASKA LOW WILL MOVE TO NEAR YAKUTAT BY SUNDAY MORNING AND THEN DISSIPATES AFTER THAT. HOWEVER UPPER LEVEL LOW WILL CONTINUE TO HOVER OVER SOUTHEASTERN INTERIOR THROUGH LATE SATURDAY NIGHT. THIS WILL SPREAD SNOW ALONG THE EASTERN PORTION OF THE INTERIOR.

GFS AND ECMWF ARE SIMILAR WITH MOST RECENT MODEL RUN AS OPPOSED TO PREVIOUS RUN SO THIS LENDS SOME CREDENCE TO THEM AT THE MOMENT.

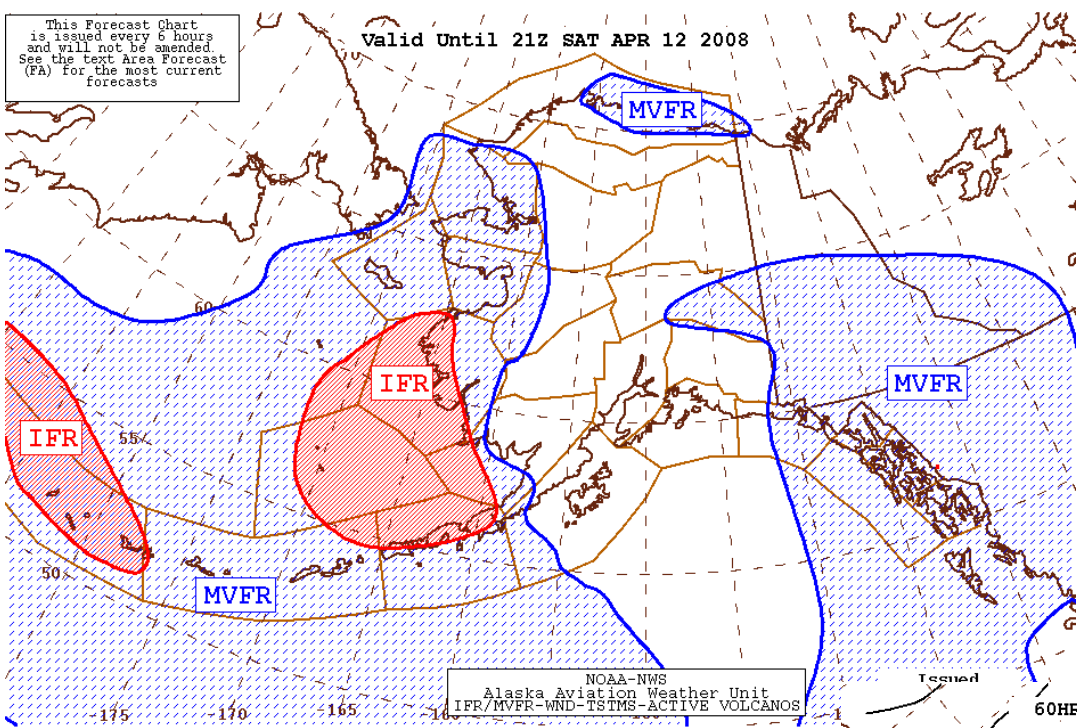
MEANWHILE ANOTHER LOW WILL ENTER THE BERING SEA AND MOVE TO NEAR SAINT MARY'S BY SUNDAY AFTERNOON. THE TRAJECTORY WILL BE FROM THE WEST IN STRONG WEST FLOW. AT THIS TIME...THINKING IS THAT THE SNOW WILL BE HEAVY IN SOME PLACES BUT THIS WILL BE A FAIRLY FAST MOVING SYSTEM AND SHOULD END THE SNOW AS QUICKLY AS IT BEGAN.

AFTER THE PASSING OF THE SYSTEM...COLDER AIR WILL SNEAK DOWN BEHIND THE LOW AND PUSH COLDER AIR BACK INTO NORTHERN ALASKA. WESTERLY FLOW IS RELATIVELY STRONG SO IT WILL HAVE AMPLE OPPORTUNITY TO ENTRAIN IN MOISTURE FROM THE BERING SEA.

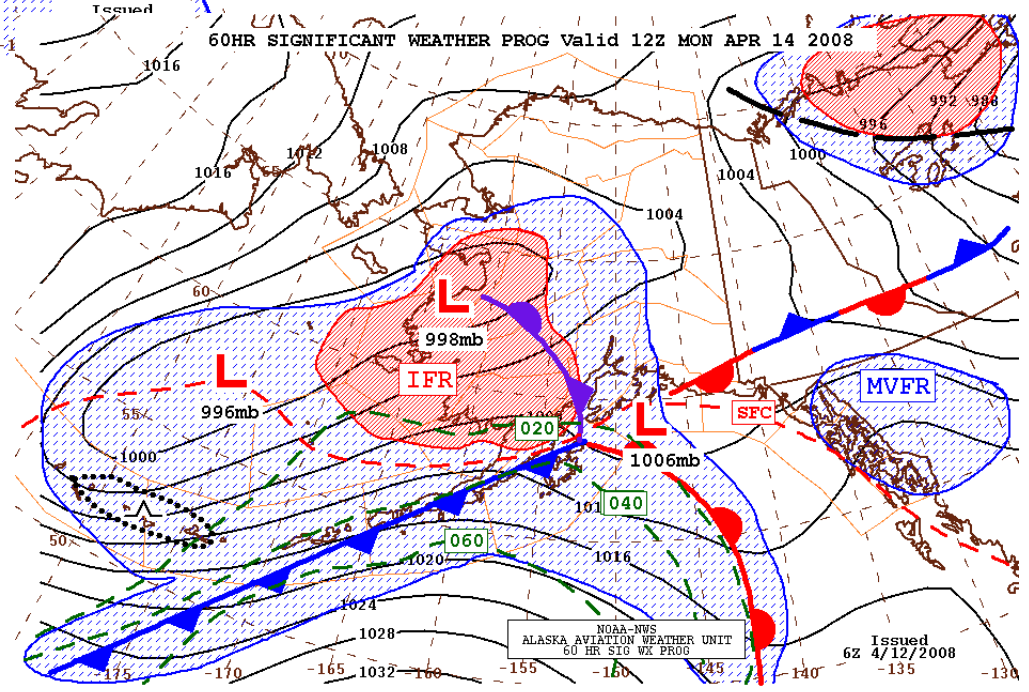
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This Forecast Chart
is issued every 6 hours
and will not be amended.
See the Text Area Forecast
(FA) for the most current
forecasts

Valid Until 21Z SAT APR 12 2008



60HR SIGNIFICANT WEATHER PROG Valid 12Z MON APR 14 2008

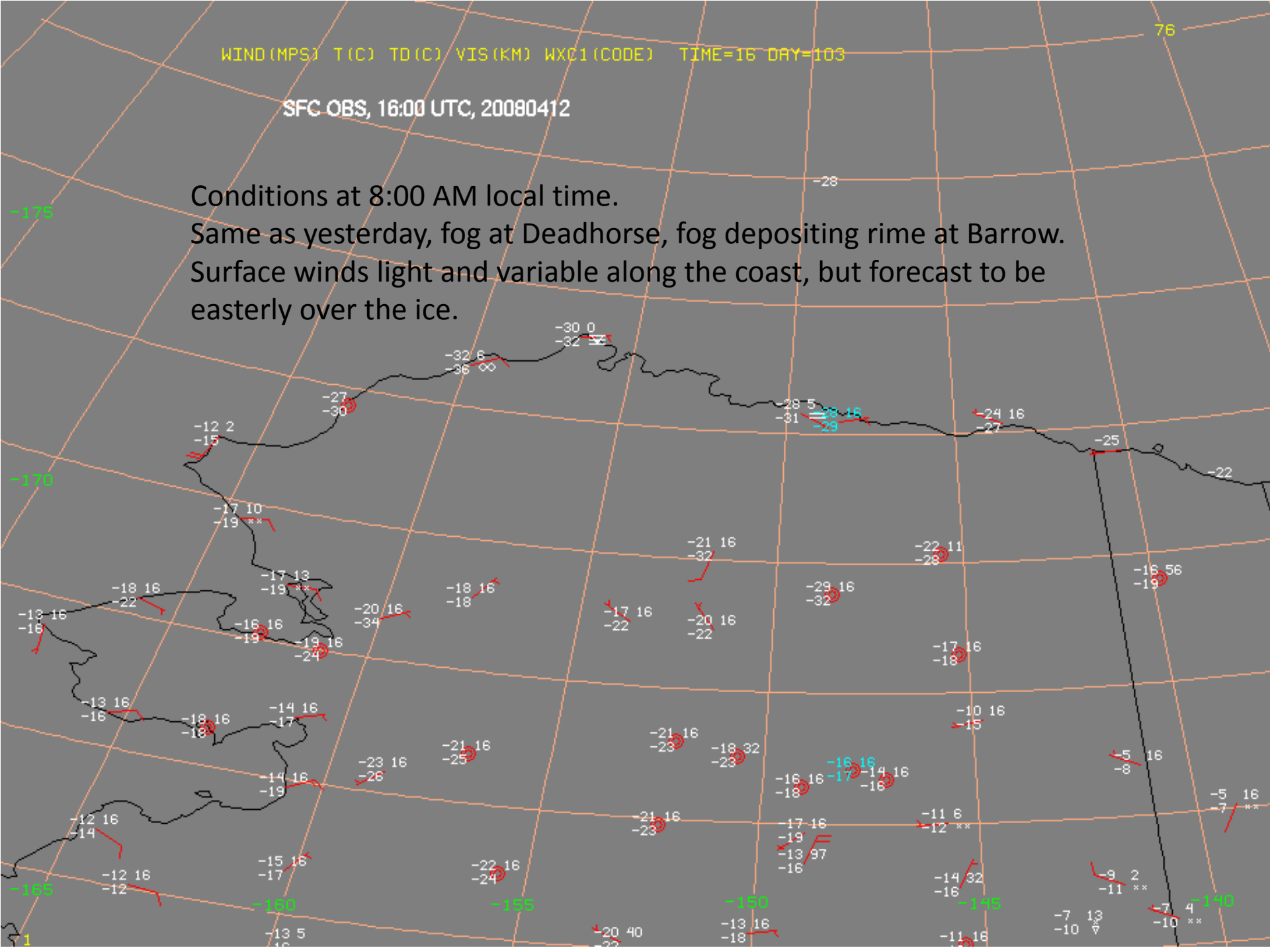


WIND(MPS) T(C) TD(C) VIS(KM) WXC1(CODE) TIME=16 DAY=103

SFC OBS, 16:00 UTC, 20080412

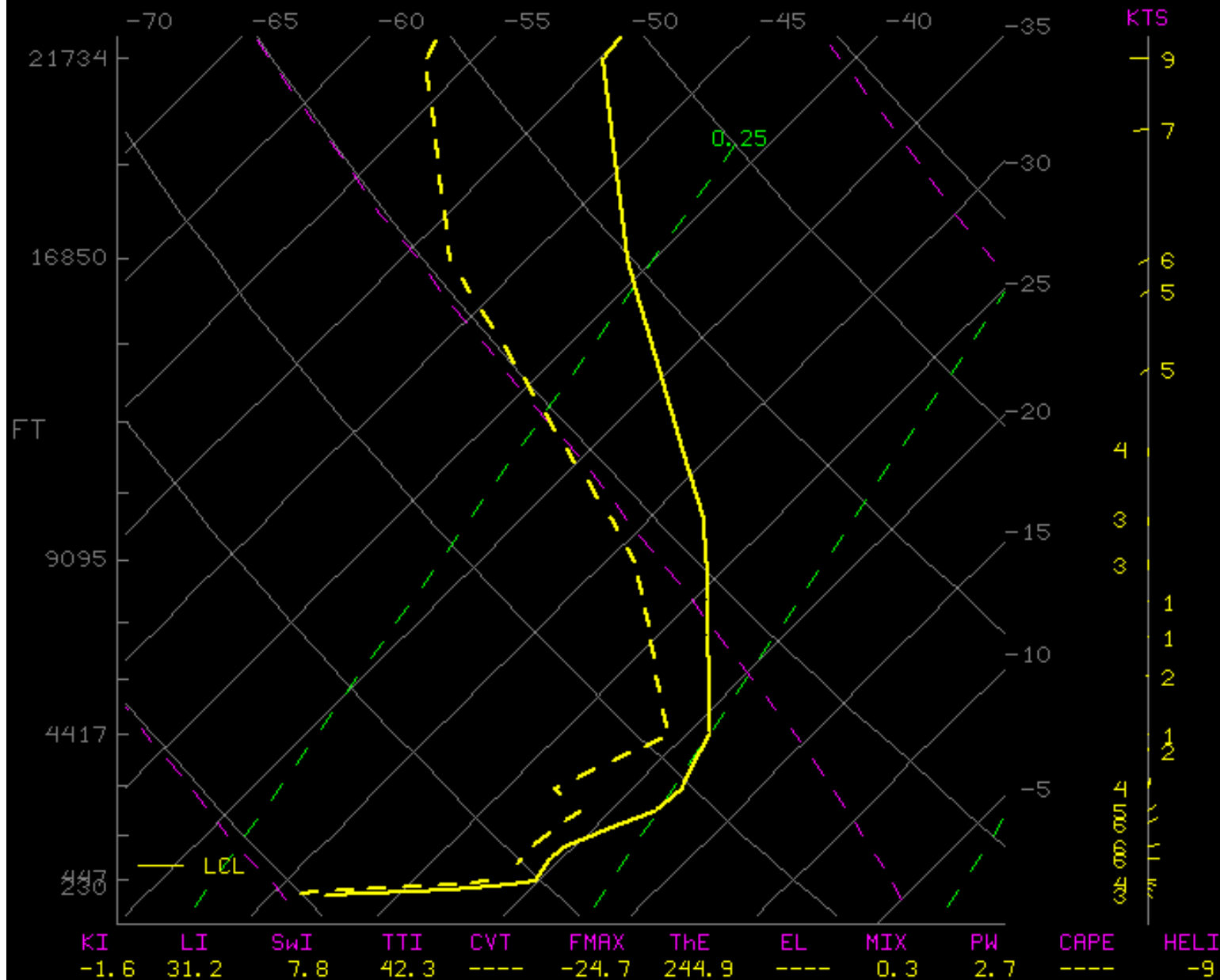
Conditions at 8:00 AM local time.

Same as yesterday, fog at Deadhorse, fog depositing rime at Barrow.
Surface winds light and variable along the coast, but forecast to be easterly over the ice.



1200 UTC 12 Apr 2008103 PABR 70026 Barrow

AK US



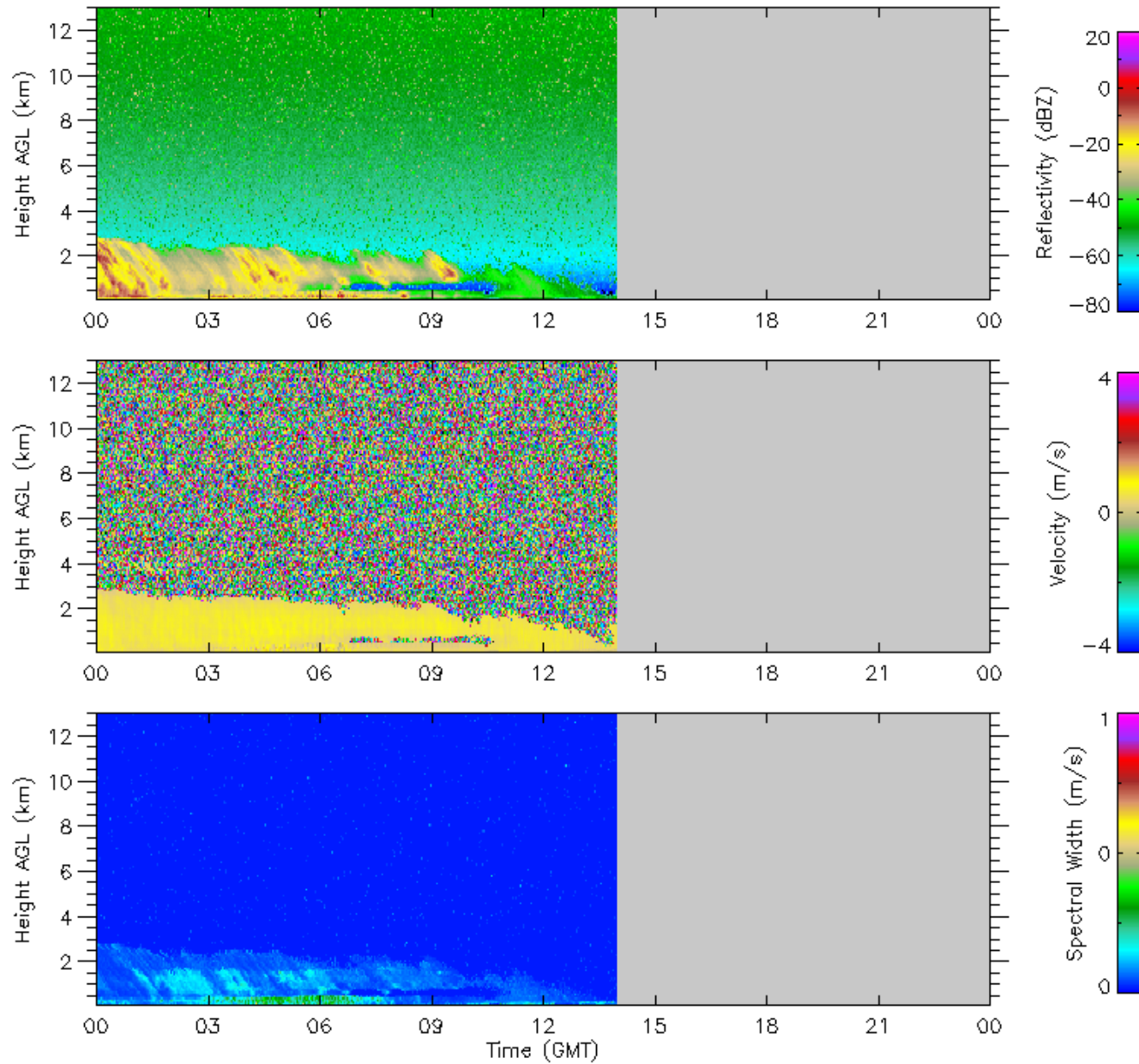
1

McIDAS

This morning's Barrow sounding.

20080412

nsammcrmomC1.b1, General, Mode 3



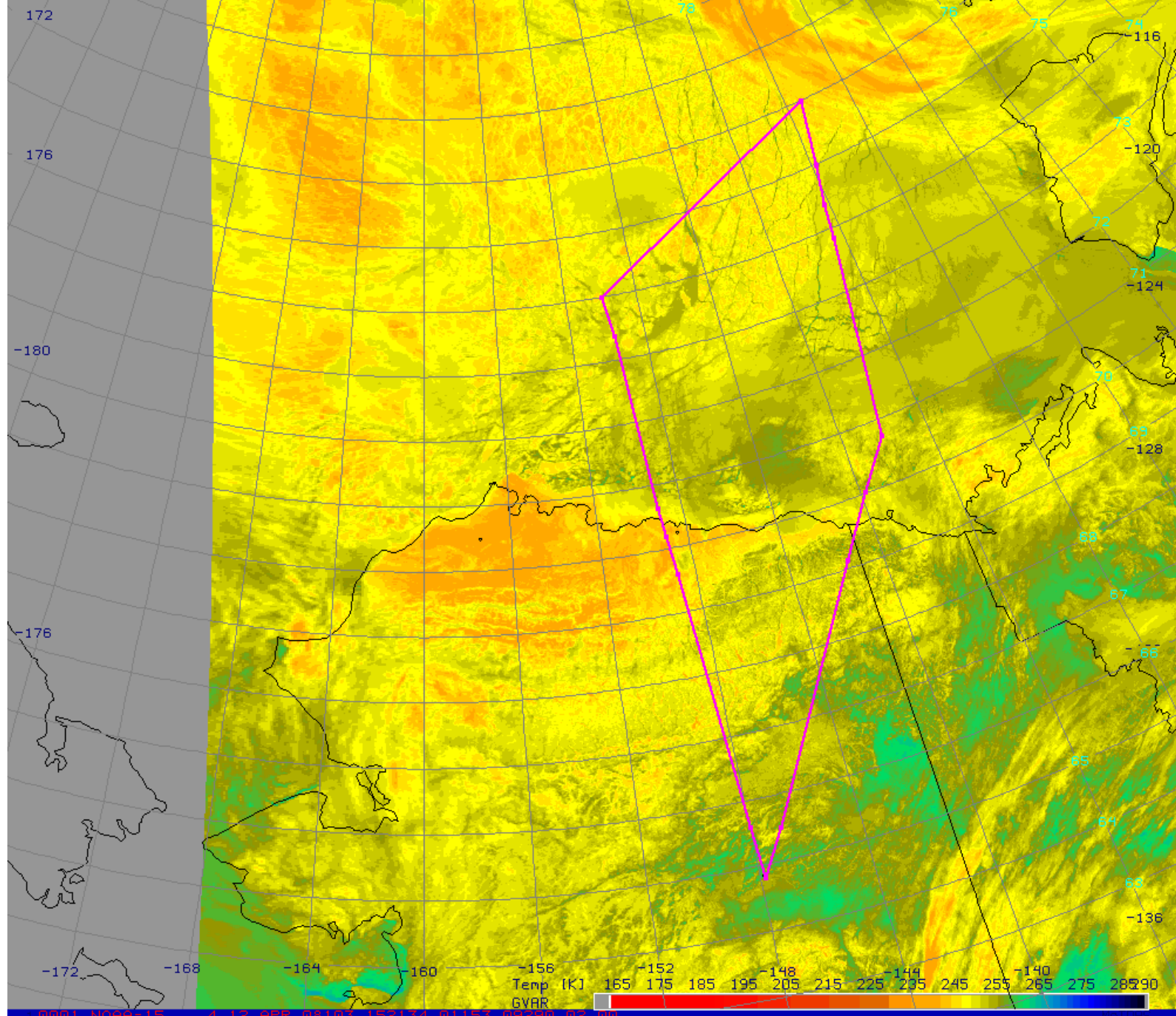
Barrow ARM cloud radar shows cloud dissipating.

The following 2 images show the most recent 1 km IR and VIS images with yesterday's flight track overlain.

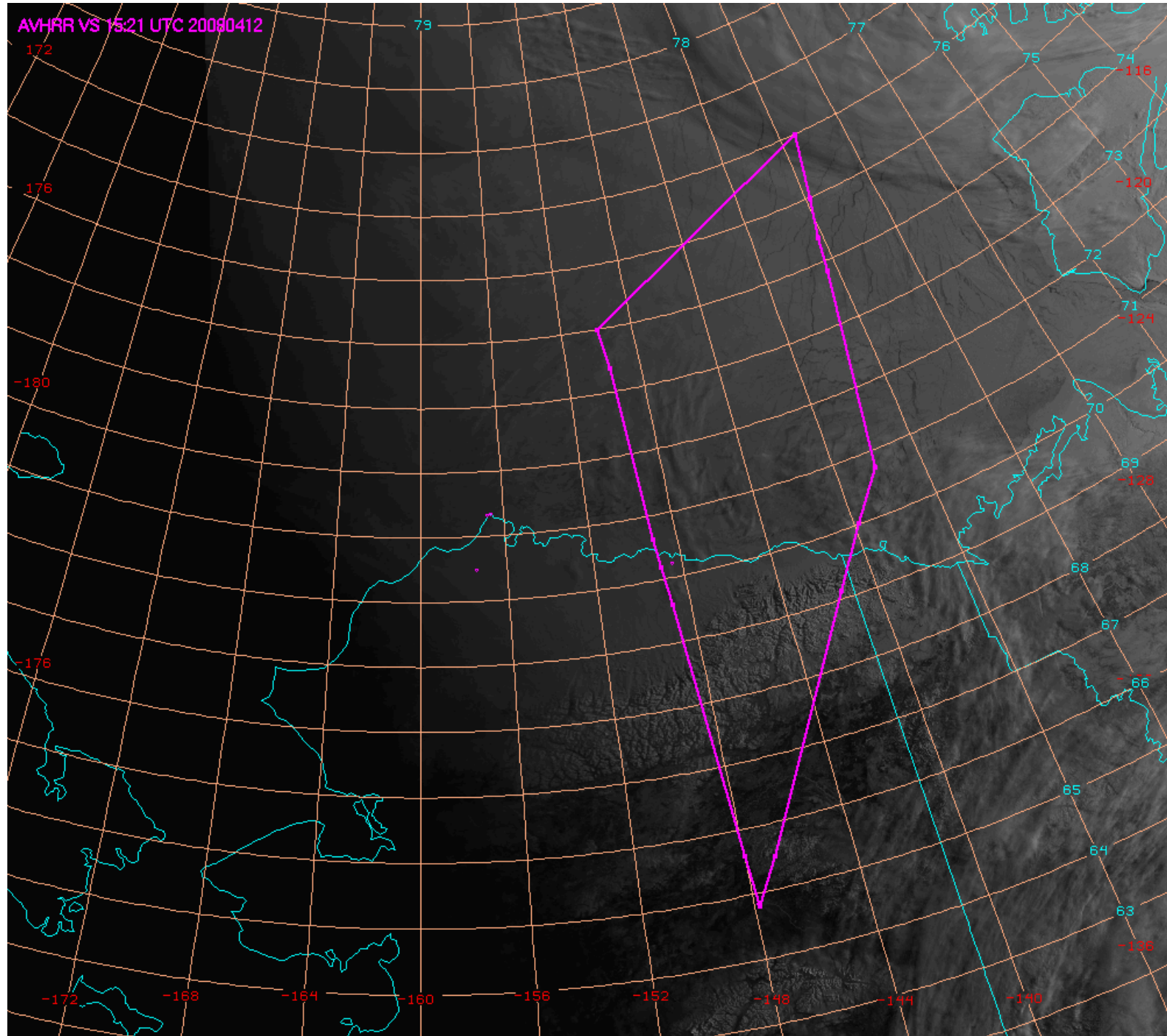
The VIS image is still a little dark, but if you toggle back and forth between the two you will see where the clouds are located.

The clouds are moving from east to west.

AVHRR IR 15:21 UTC 20080412



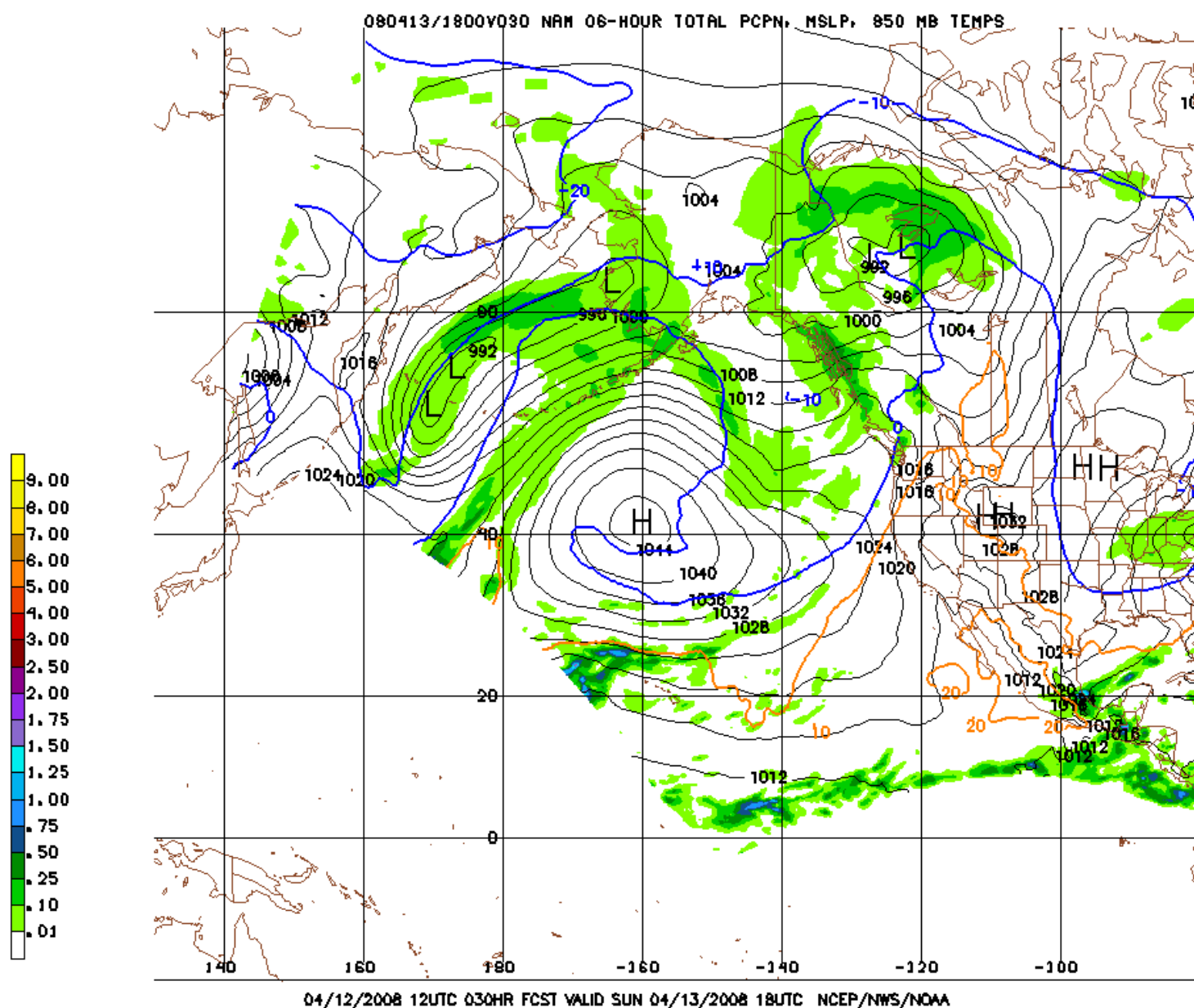
AVHRR VS 15:21 UTC 20080412



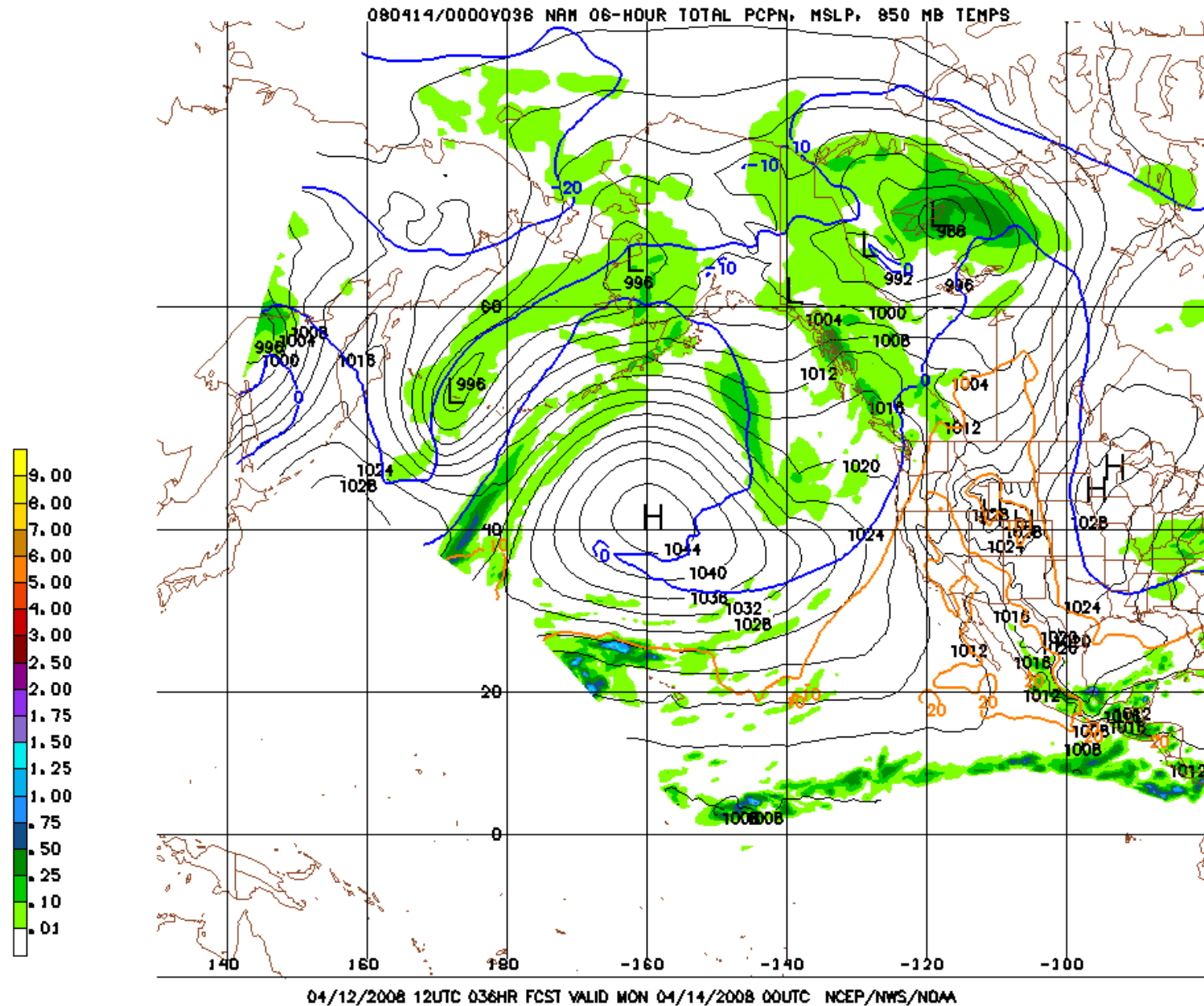
The 12 UTC runs of the NAM and GFS are in good agreement for the next 72 hours.

The low moving in on Sunday evening is not as strong as forecast a couple of days ago.

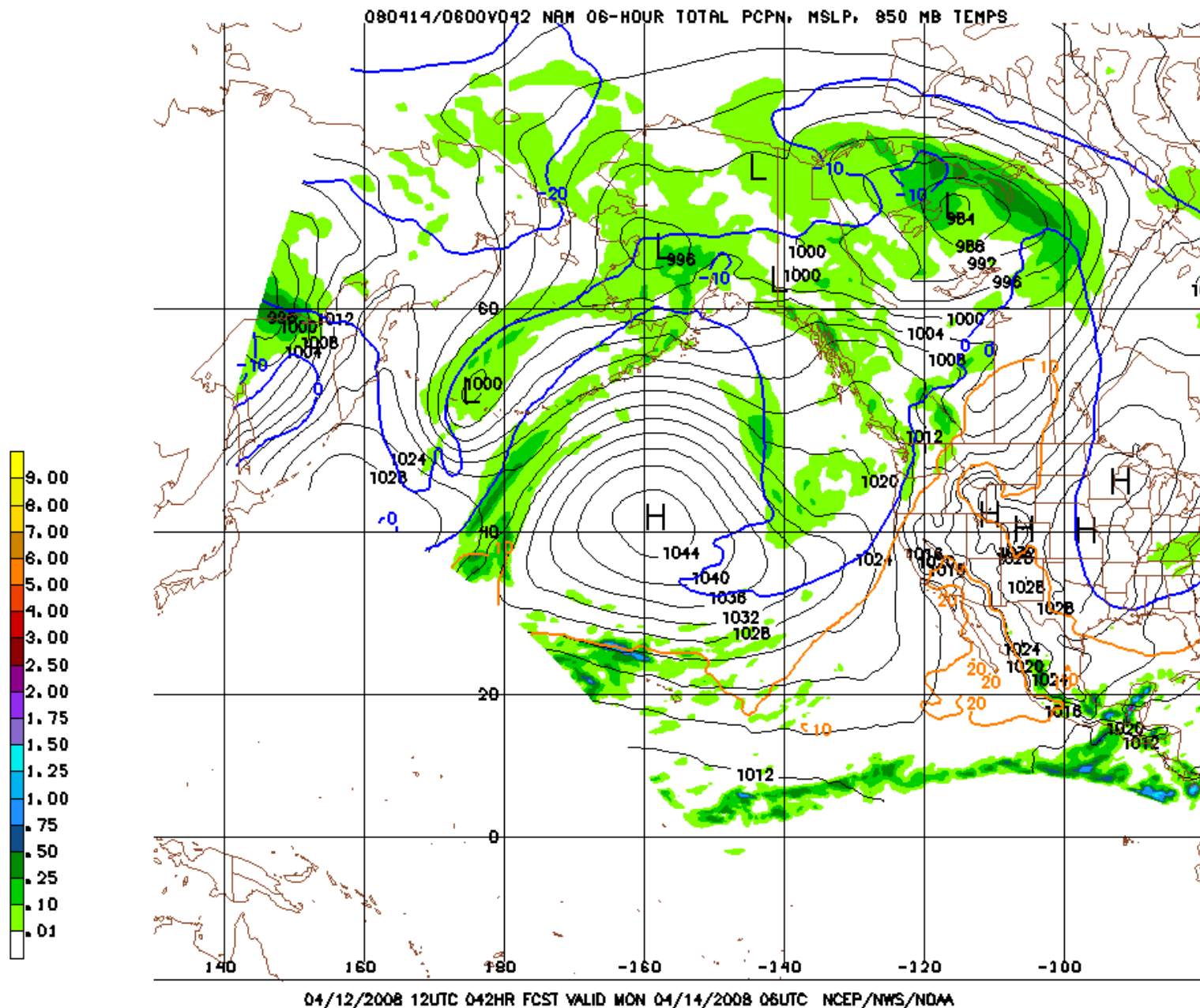
Both models show the low dissipating over the Interior on Monday but reforming over the south coast on Tuesday.



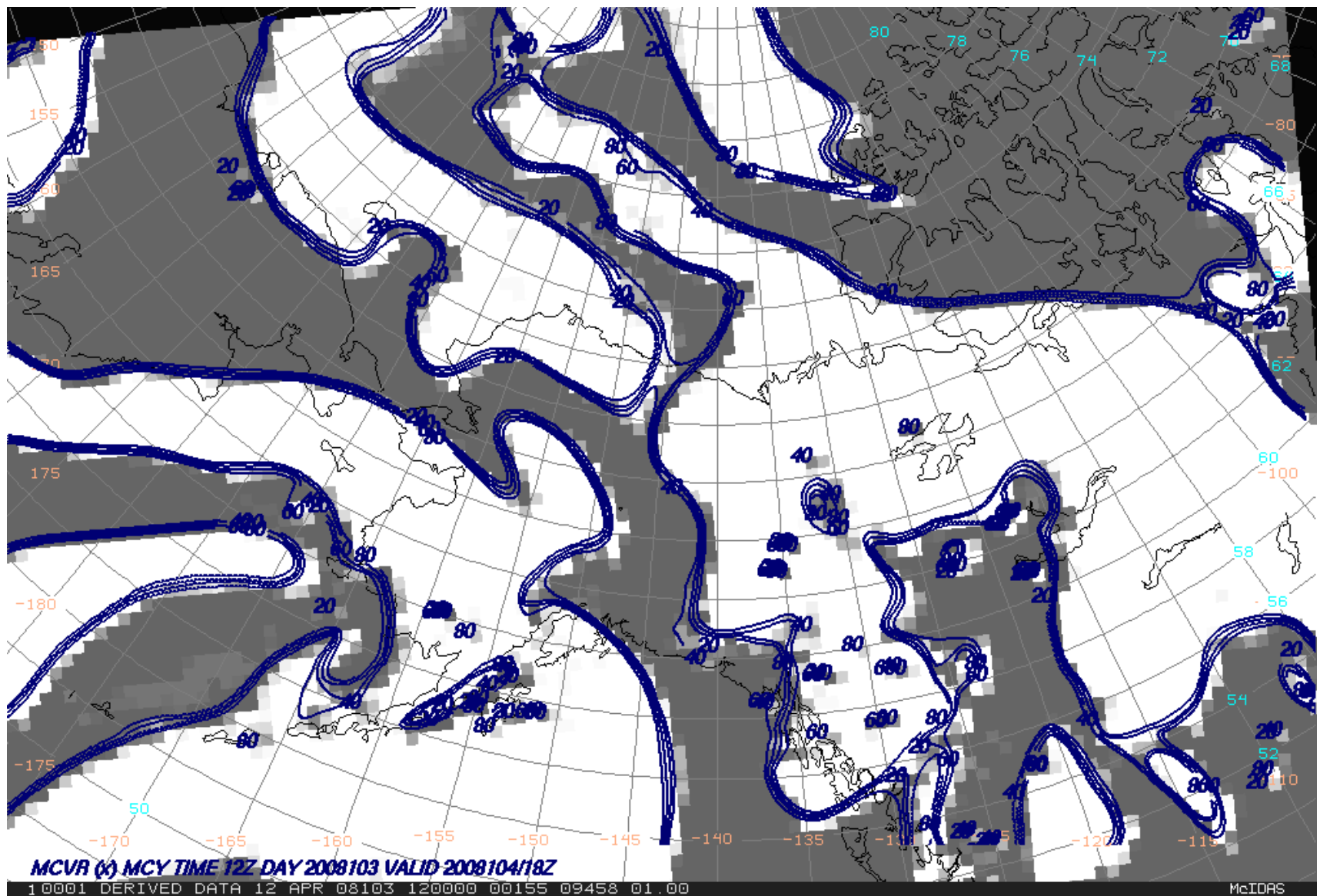
NAM 12 UTC run, 30-hr forecast of 850 hPa temp, with surface precip
10 AM local time Sunday. No precip over Fairbanks during previous 6 hours



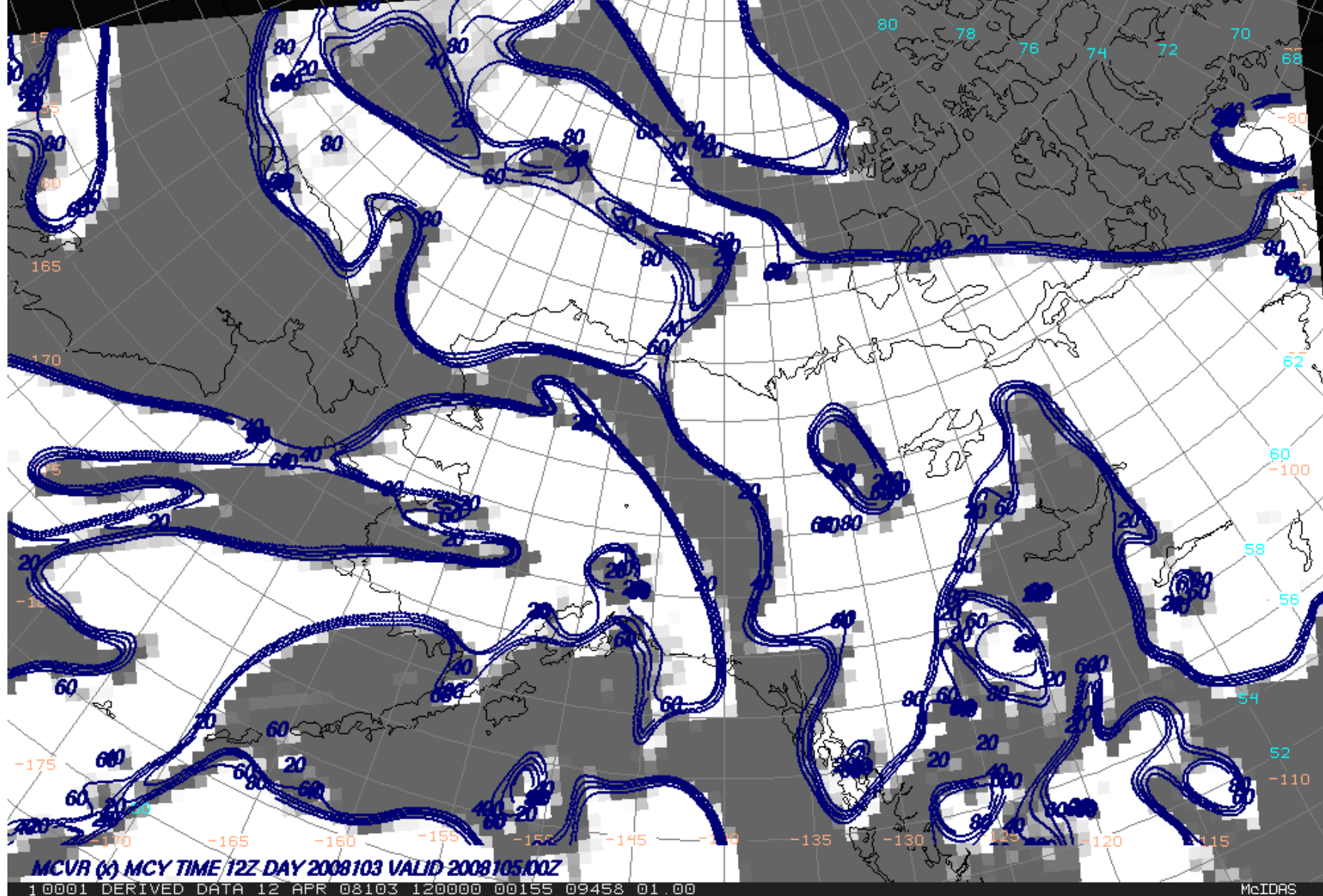
4 PM local time Sunday. No precip over Fairbanks during previous 6 hours



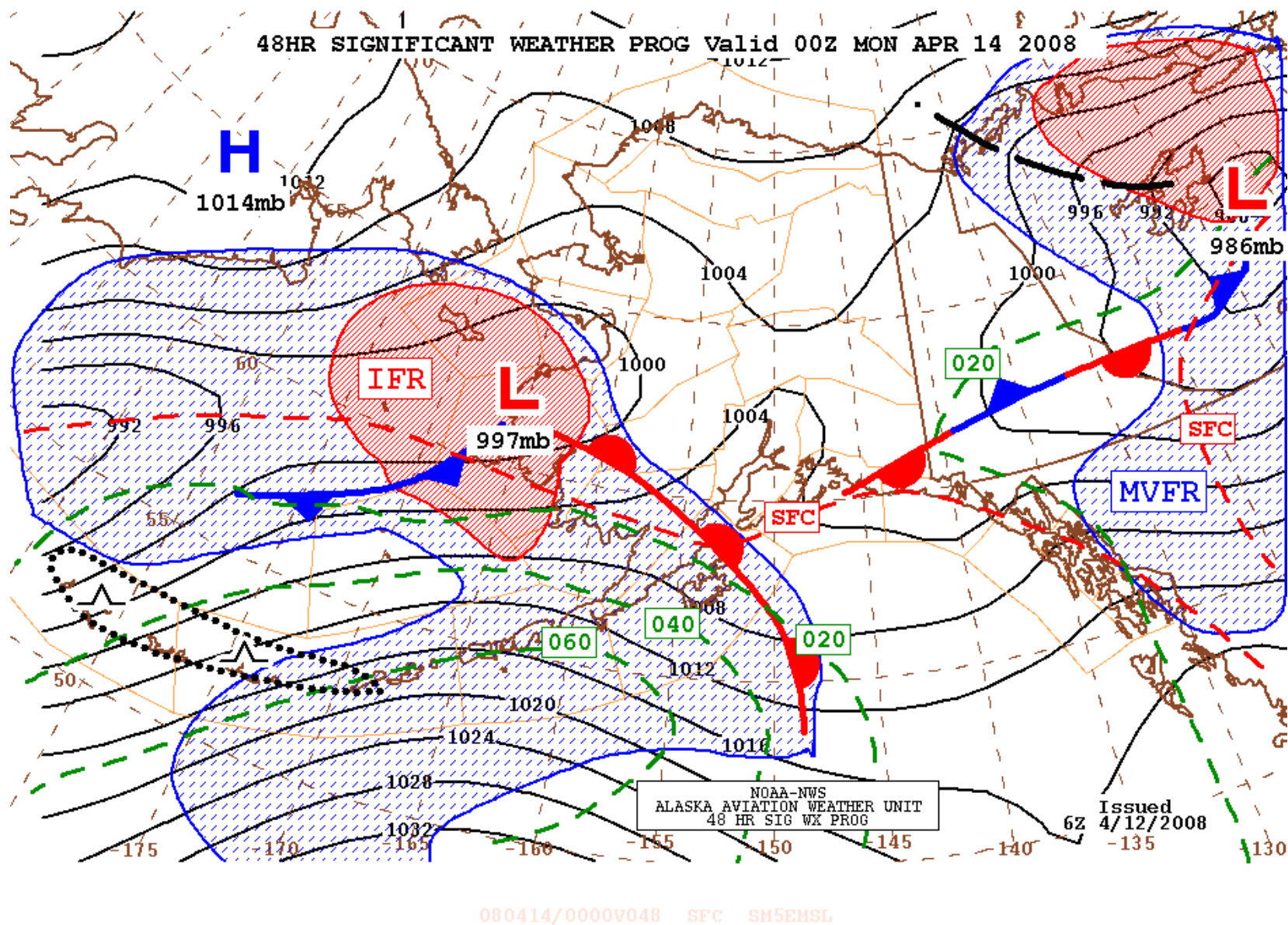
10 PM local time Sunday. Some precip over Fairbanks during previous 6 hours



12 UTC NAM, valid 18 UTC Sunday, mid-level cloud
Fairbanks in the clear at this time



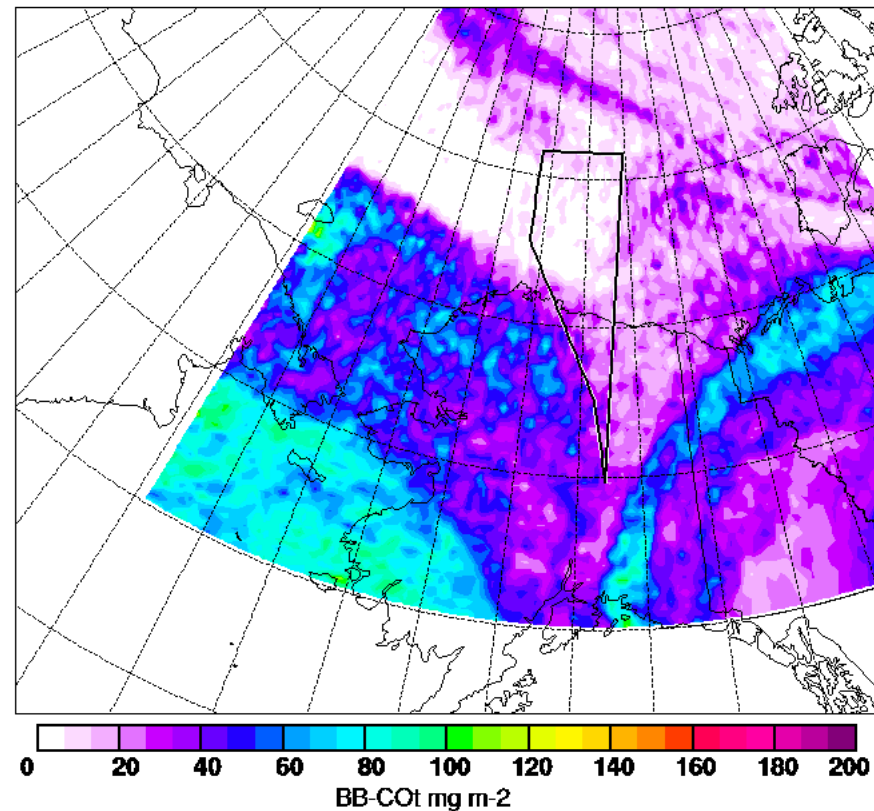
12 UTC NAM, valid 00 UTC Monday, mid-level cloud
Fairbanks under cloud by Sunday afternoon.
Cloud builds over the Arctic Ocean.



Flying conditions look fine through Sunday afternoon

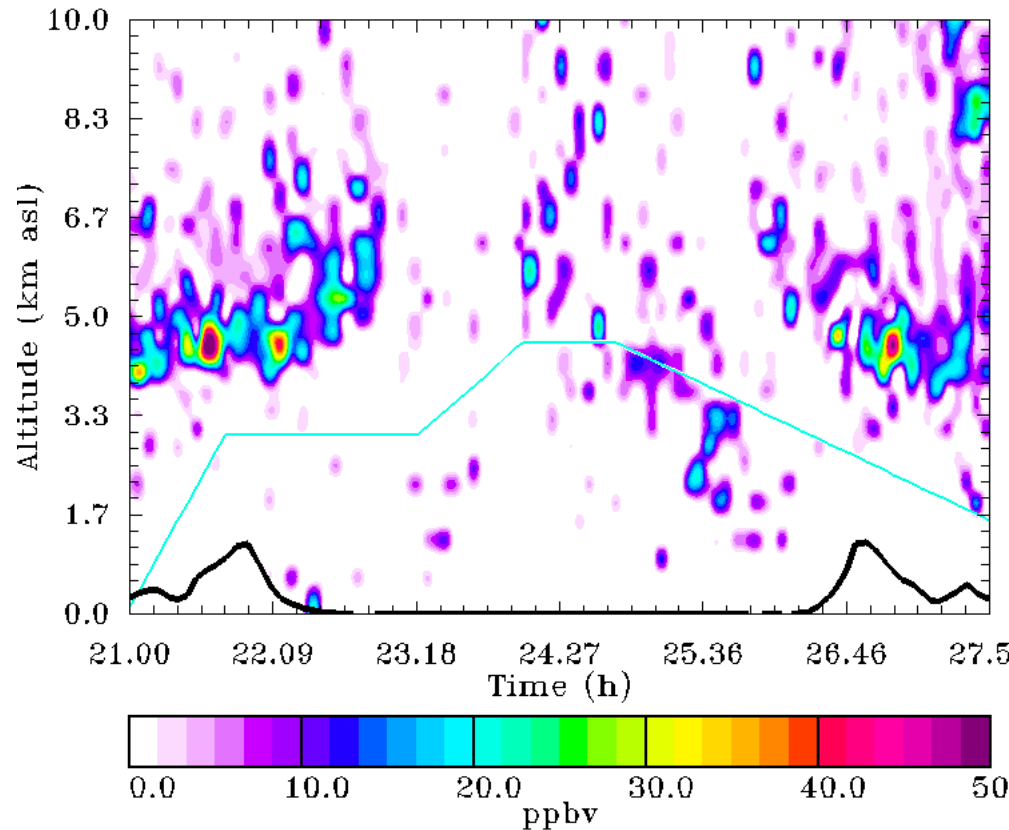
Biomass burning along the flight track

total column of species BB-COt for age class 0 - 20.00 DAYS
Latest analysis time 20080412. 60000 Actual time 20080413. 0
Mean value 0.317E+02 Maximum value 0.179E+03 Minimum value 0.000E+00
Distance of grid lines 5.0 deg



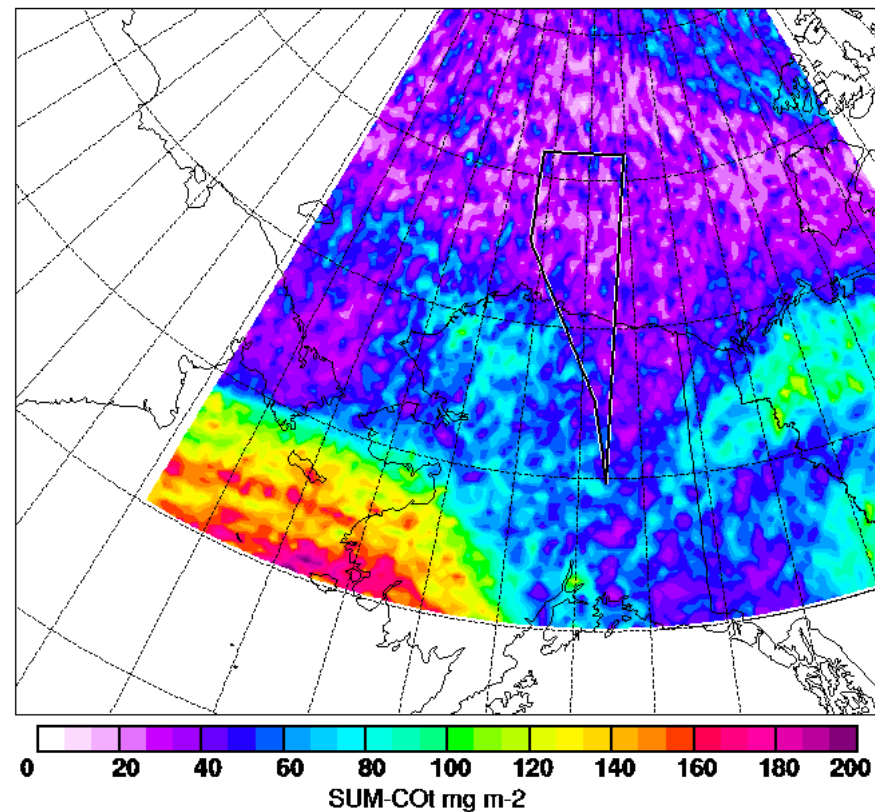
Tracer profile

Date: 20080412 90000
Start: + 0 d 21 h End: + 1 d 3 h
Mean value: 5.456
Maximum value: 48.891
Minimum value: 0.000



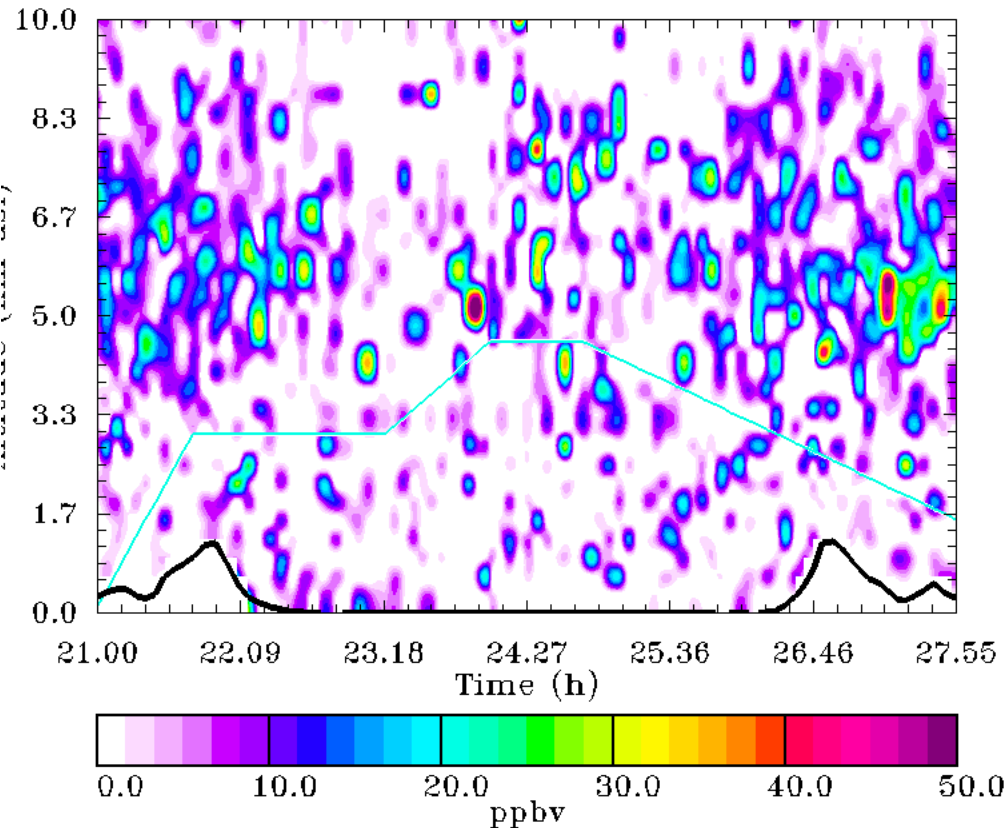
Anthropo. CO along the flight track

al column of species SUM-CO for age class 0 - 20.00 DAYS
Latest analysis time 20080412. 60000 Actual time 20080413. 0
Mean value 0.548E+02 Maximum value 0.205E+03 Minimum value 0.493E+0
Distance of grid lines 5.0 deg



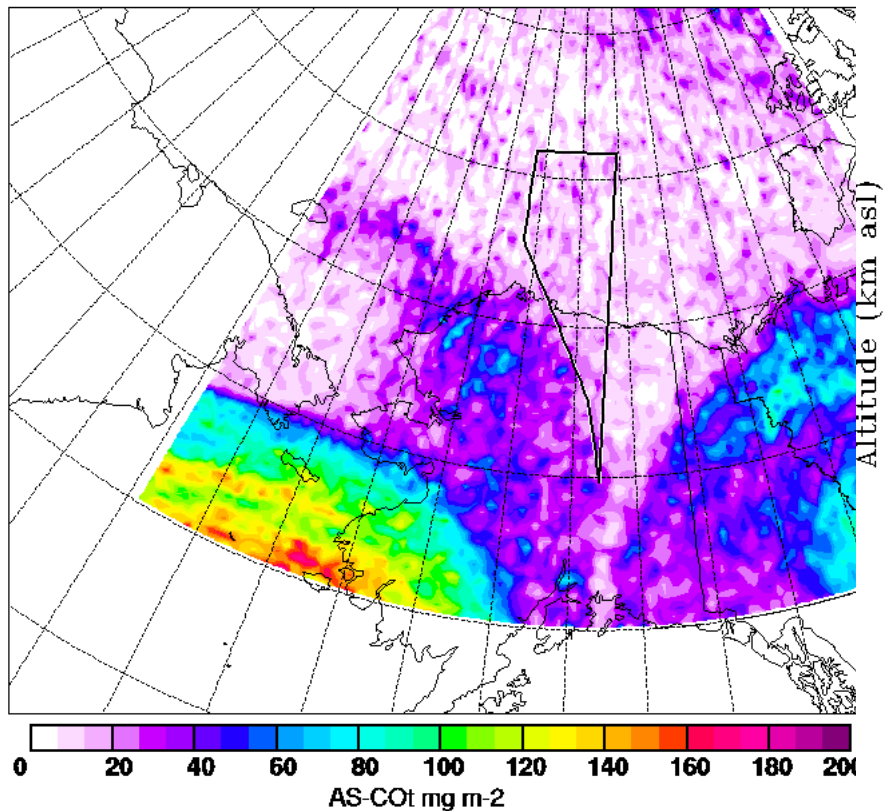
Tracer profile

Date: 20080412 90000
Start: + 0 d 21 h End: + 1 d 3 h
Mean value: 6.264
Maximum value: 53.300
Minimum value: 0.000



Asian tracer

Total column of species AS-COt for age class 0 - 20.00 DAYS
Latest analysis time 20080412. 60000 Actual time 20080413. 0
Mean value 0.301E+02 Maximum value 0.178E+03 Minimum value 0.000
Distance of grid lines 5.0 deg

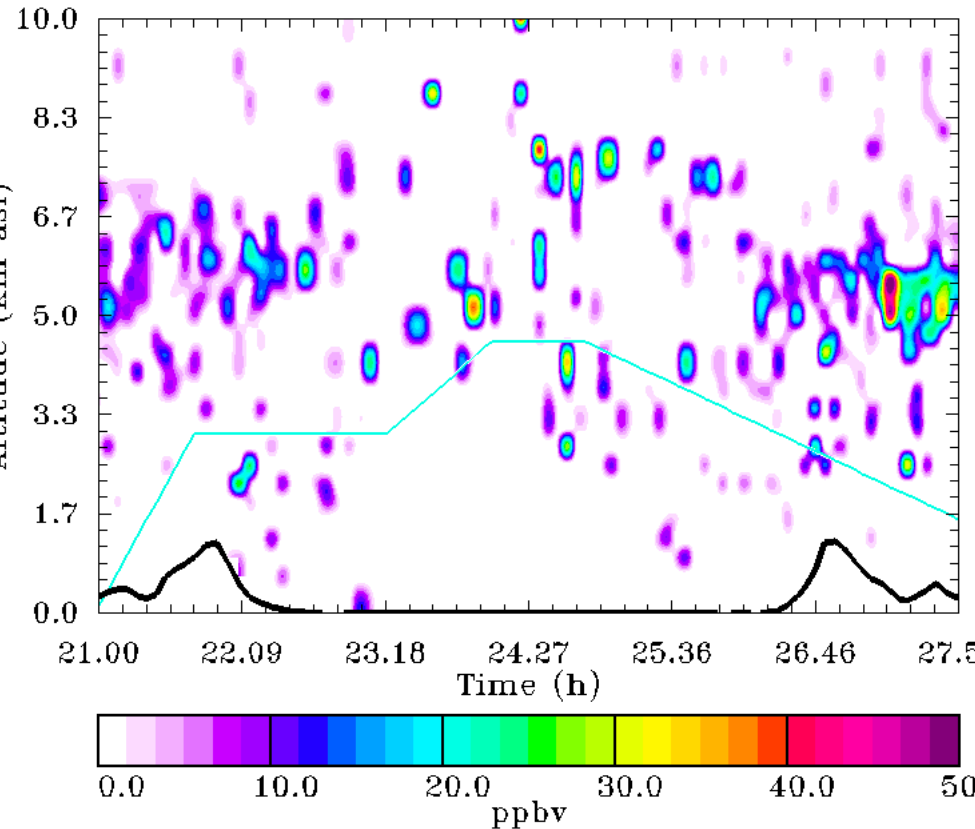


Tracer profile

Date: 20080412 90000

Start: + 0 d 21 h End: + 1 d 3 h

Mean value: 4.889
Maximum value: 53.295
Minimum value: 0.000

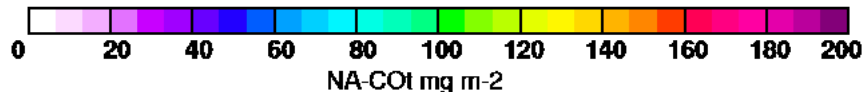
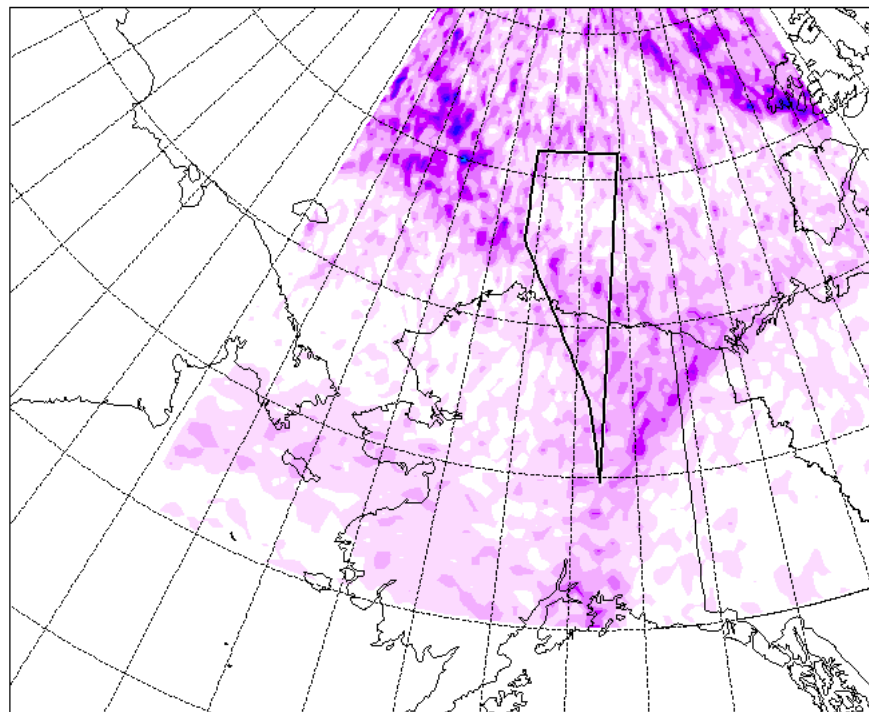


North American tracer

Total column of species NA-COt for age class 0 - 20.00 DAYS

Latest analysis time 20080412. 60000 Actual time 20080413. 0

Mean value 0.131E+02 Maximum value 0.825E+02 Minimum value 0.904E-07
Distance of grid lines 5.0 deg

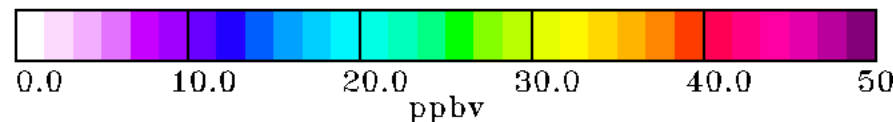
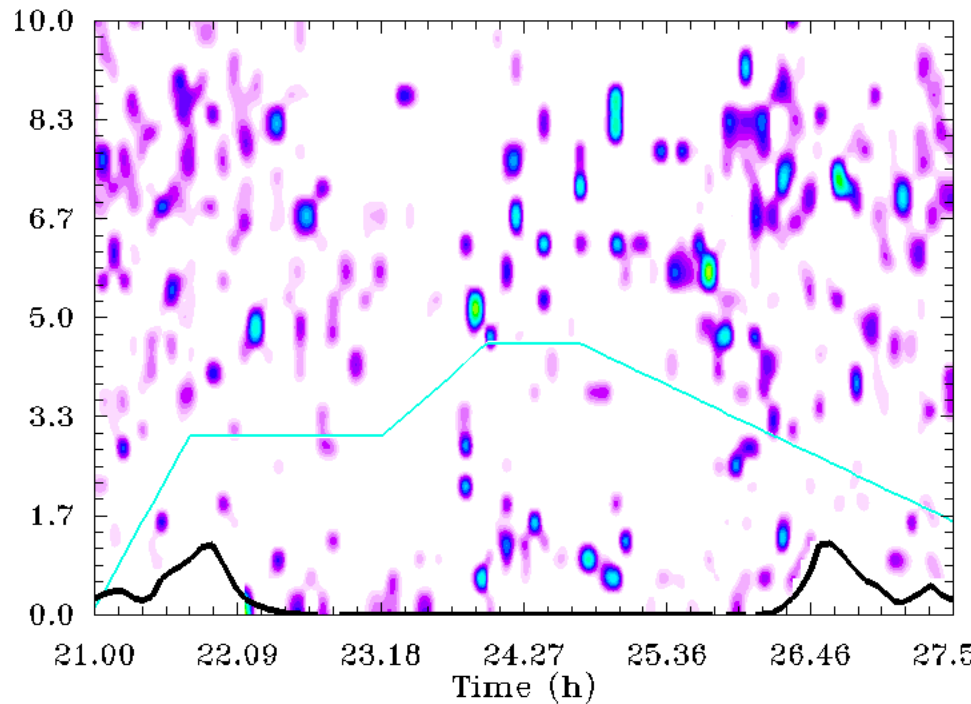


Tracer profile

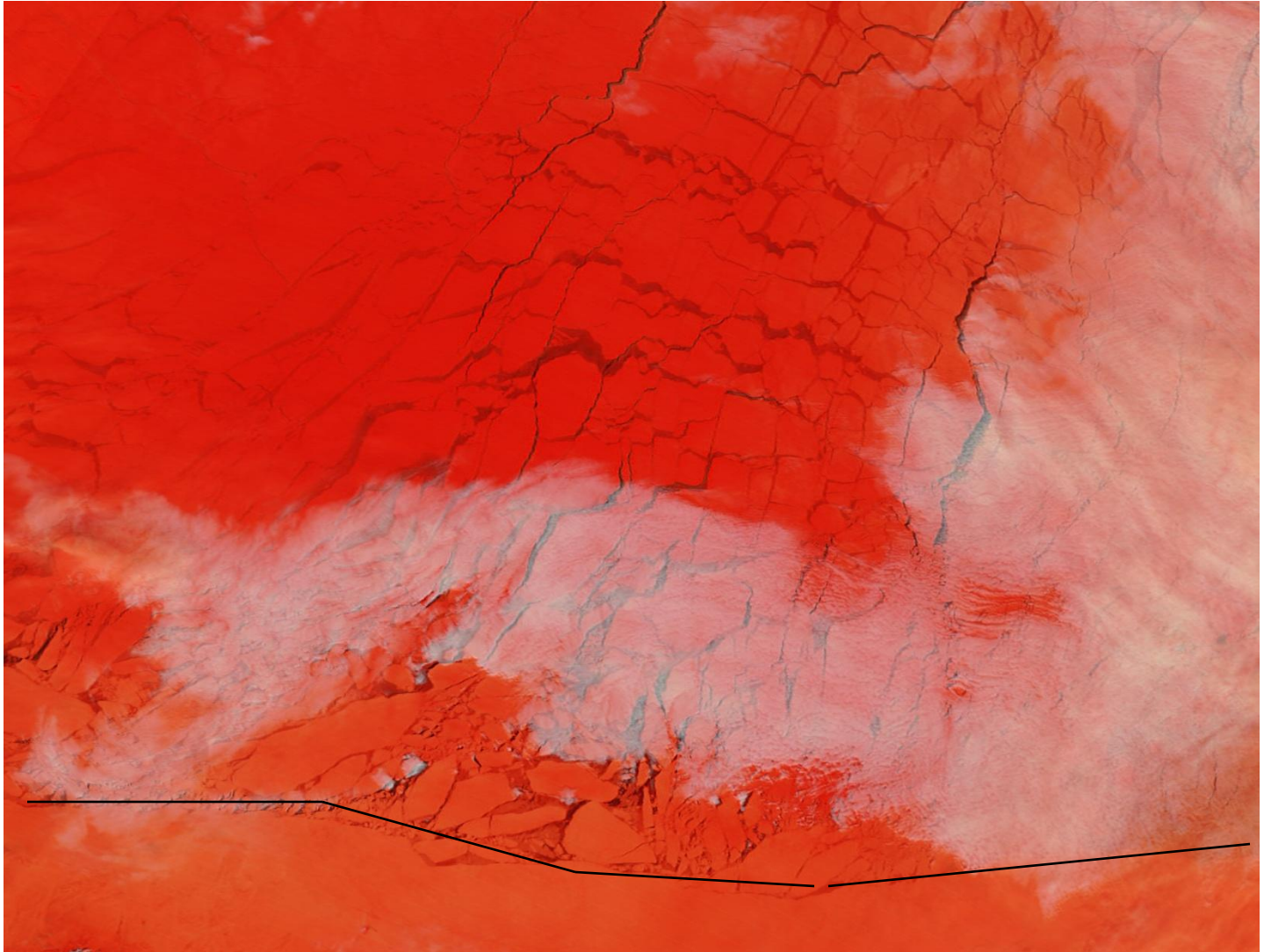
Date: 20080412 90000

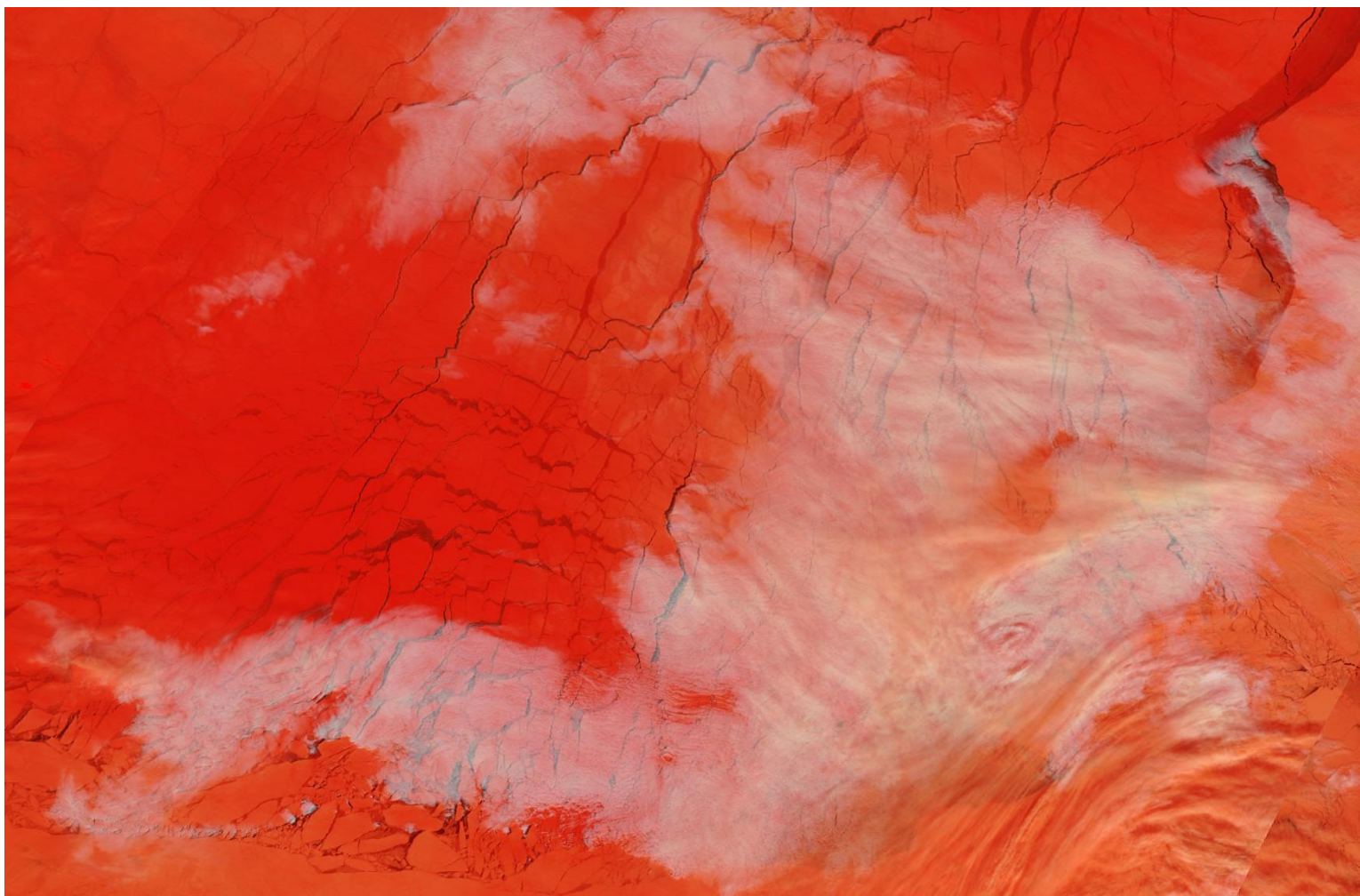
Start: + 0 d 21 h End: + 1 d 3 h

Mean value: 3.206
Maximum value: 25.880
Minimum value: 0.000



Clouds, Yesterday.



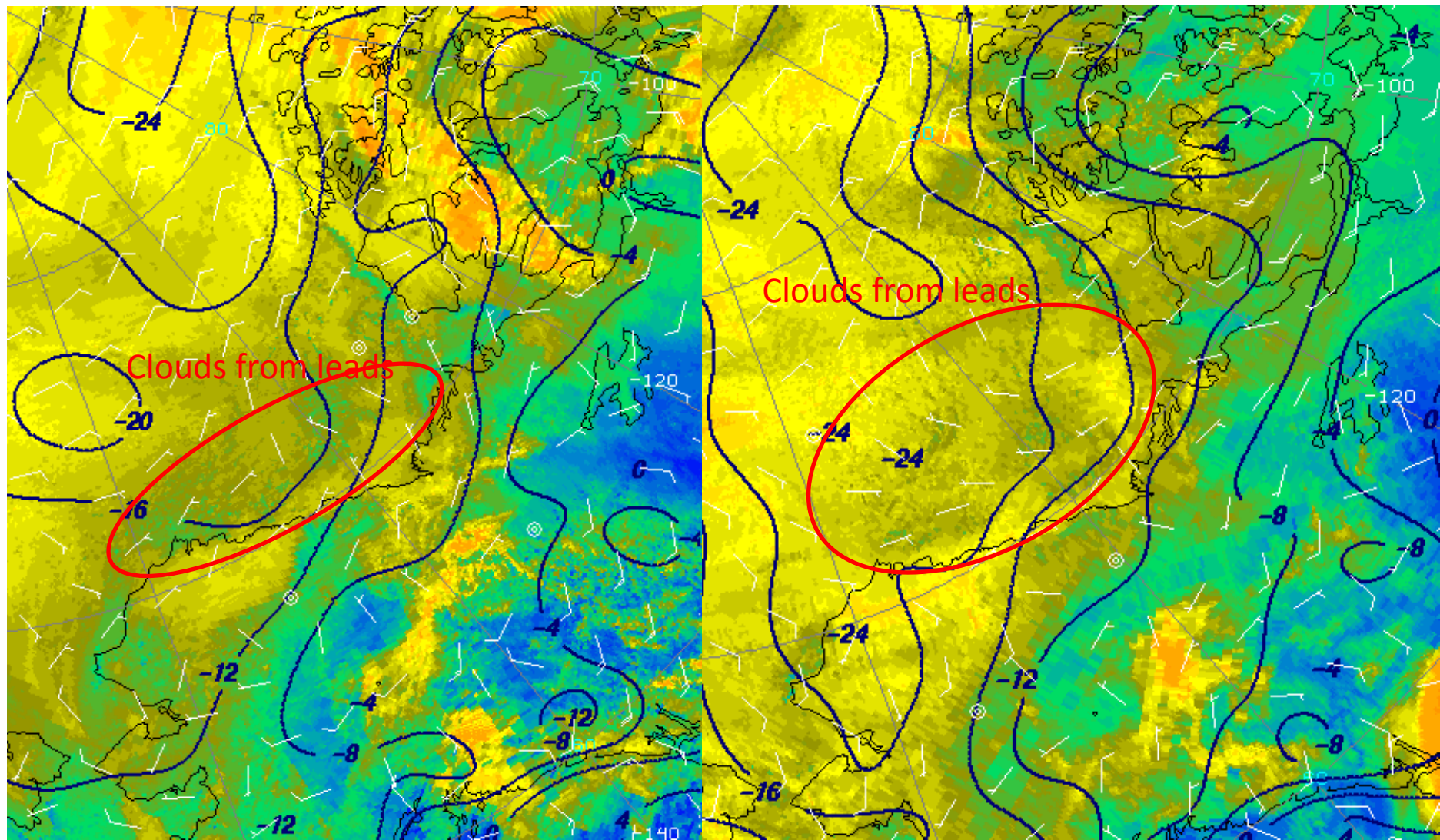


April 10, 18Z

North easterly weak wind

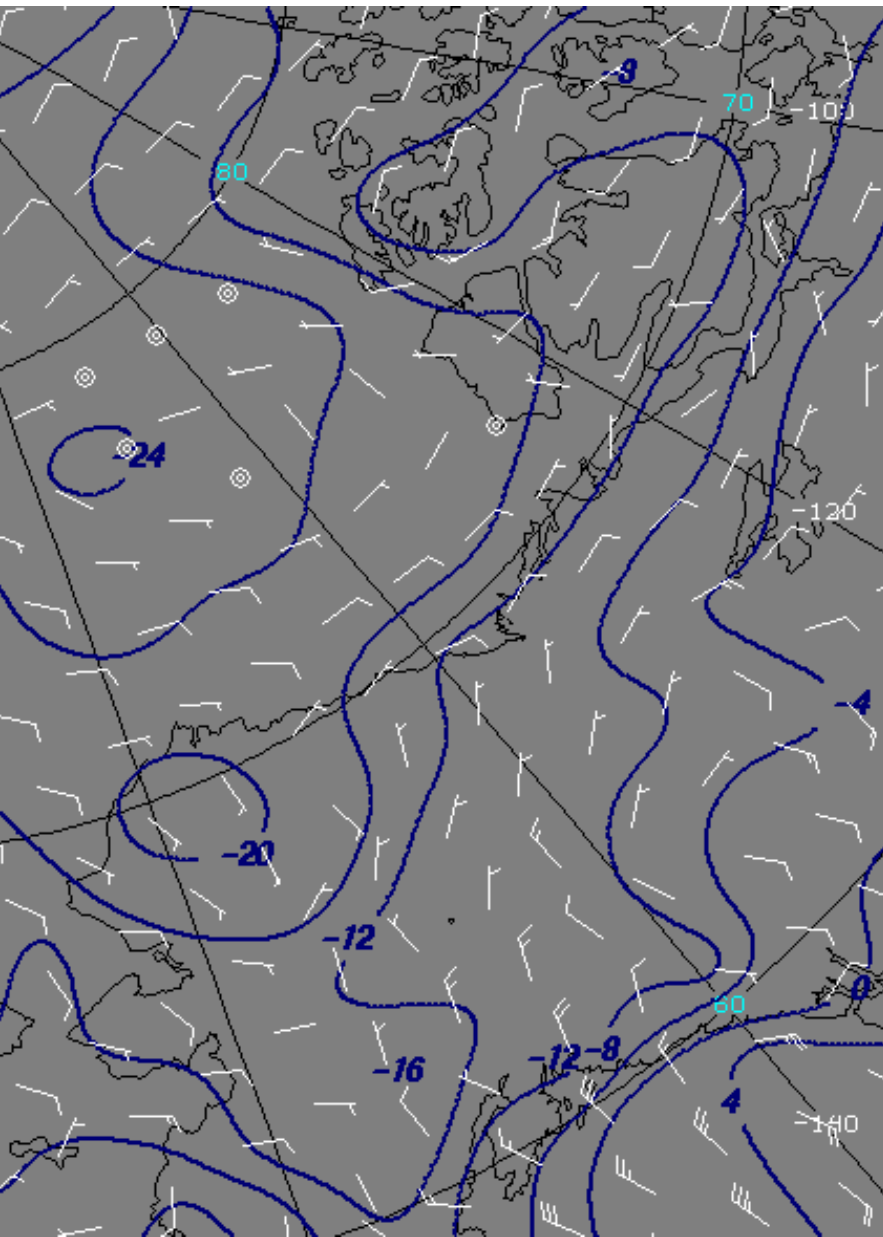
April 11, 18Z

South westerly wind

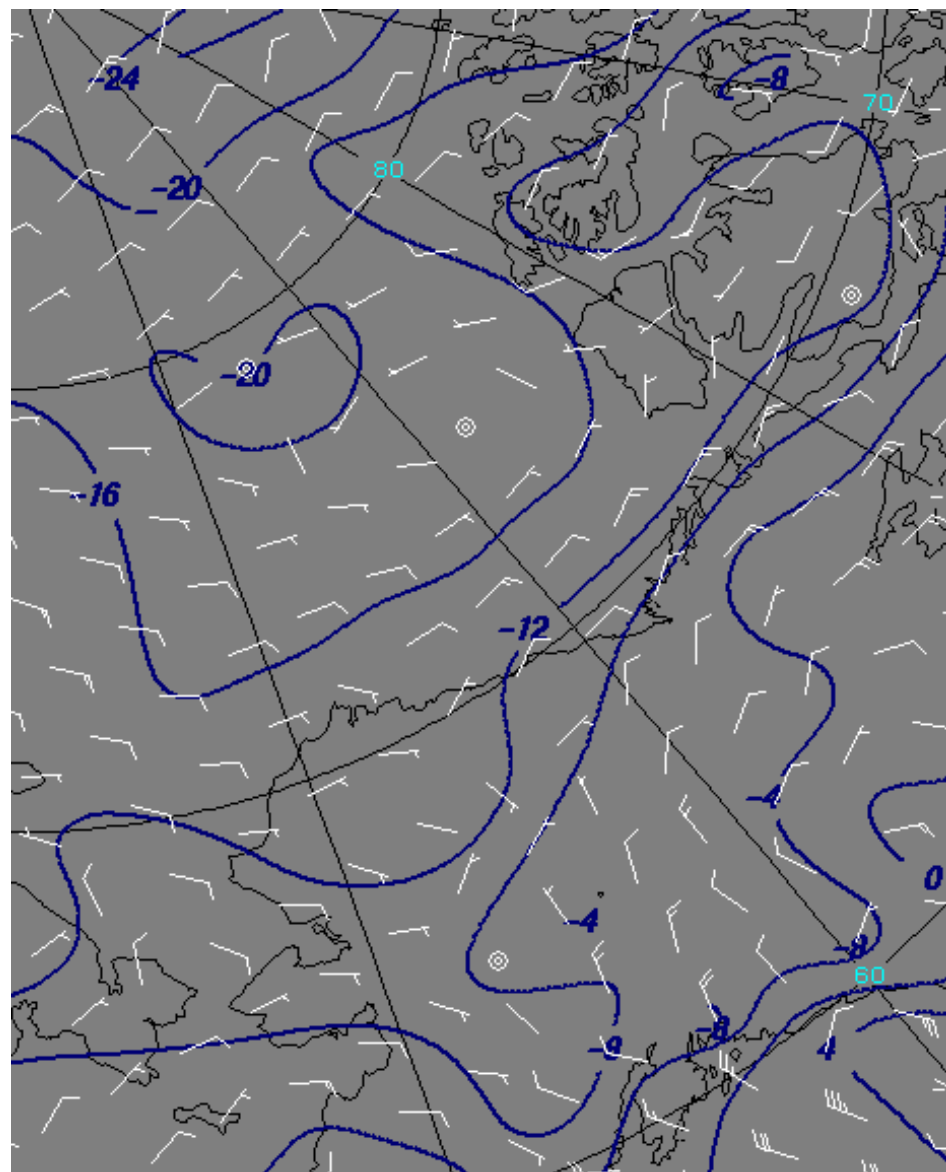


April 12, 18Z

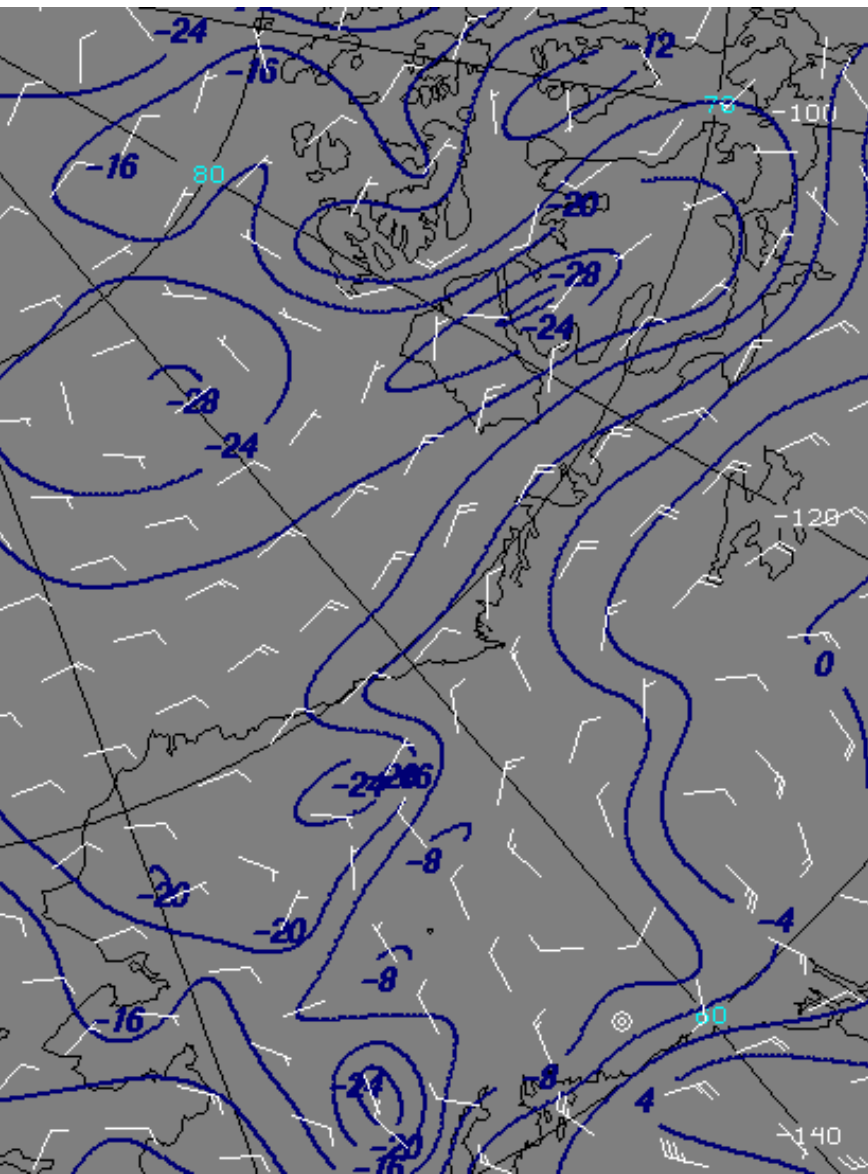
North easterly weak wind

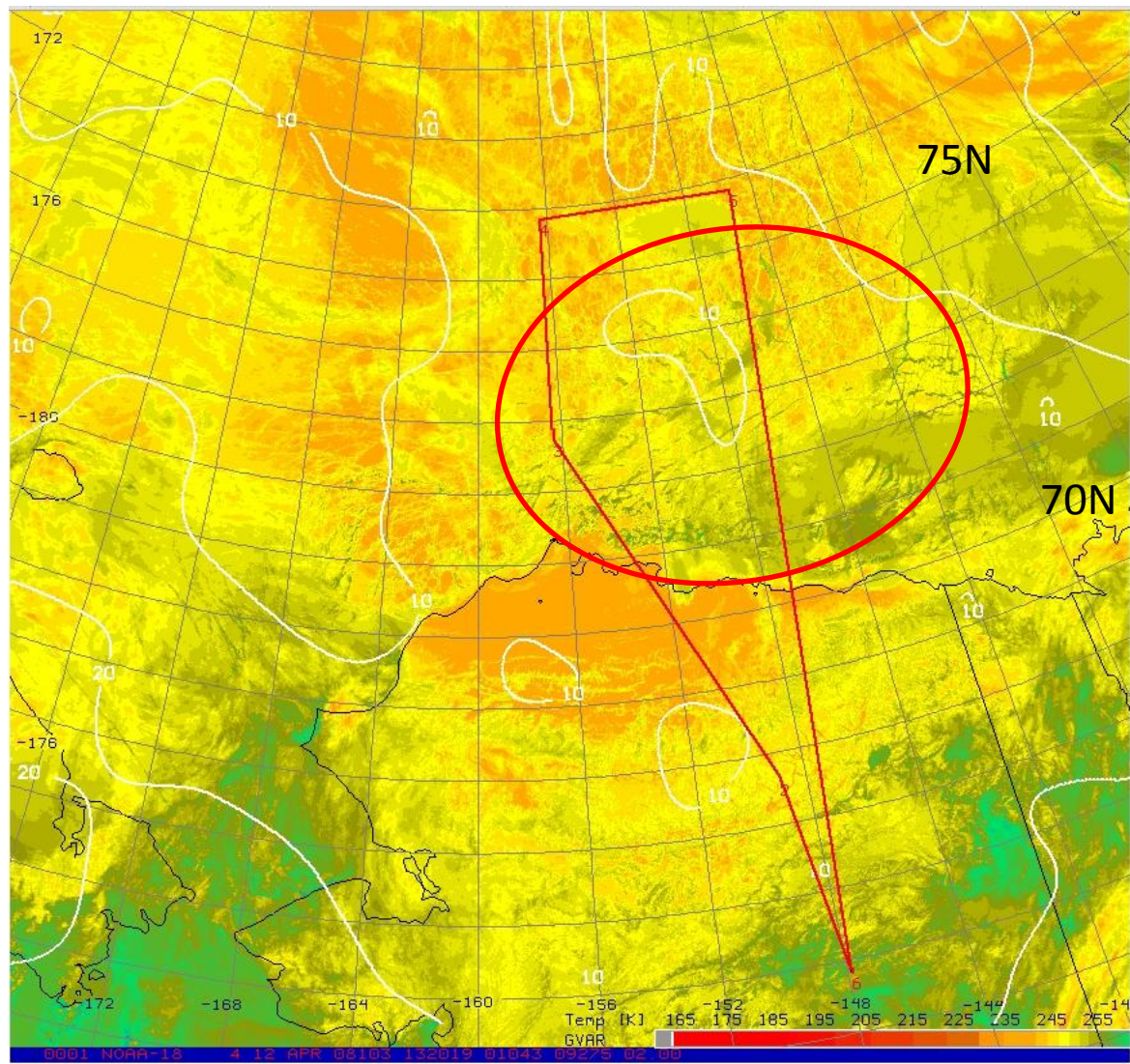


April 13, 00Z

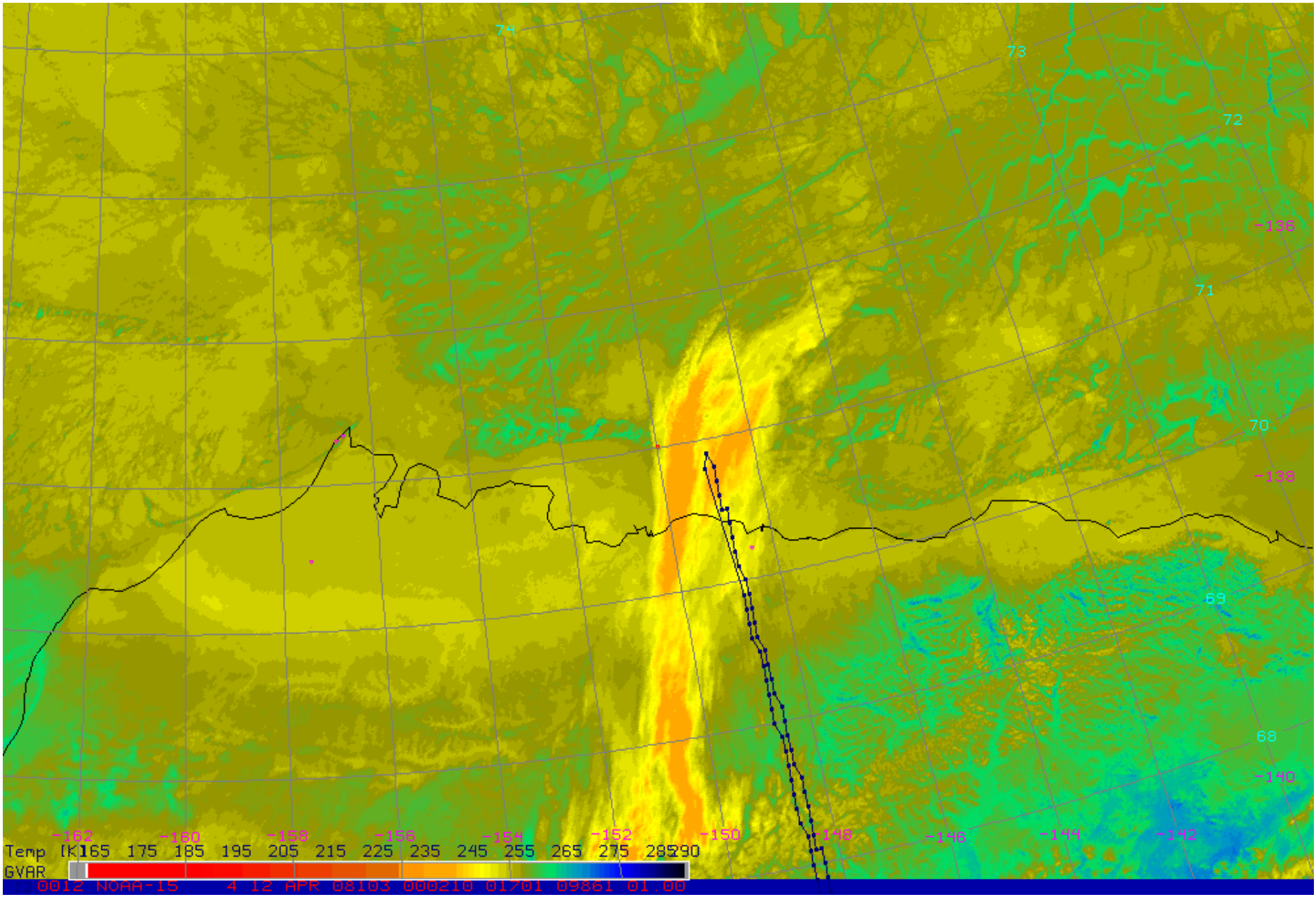


April 13, 06Z



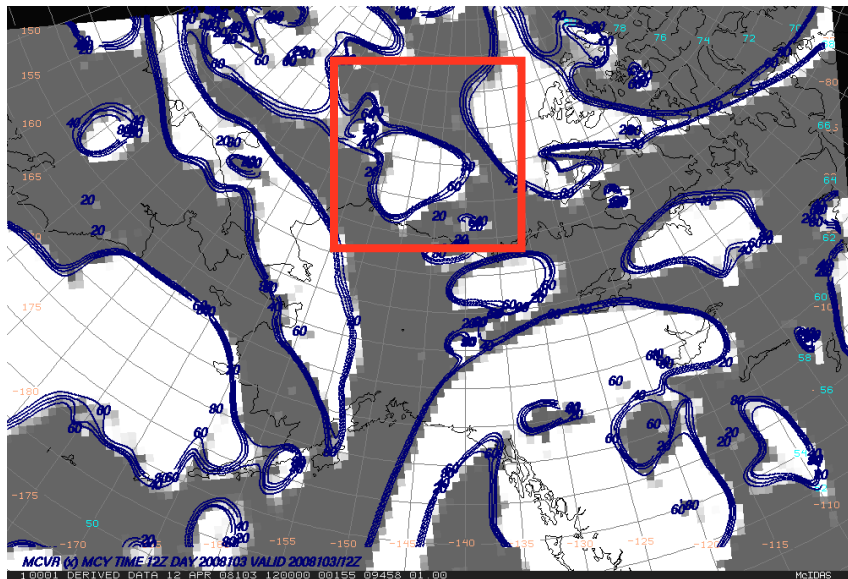


IR 08Z 12 Apr

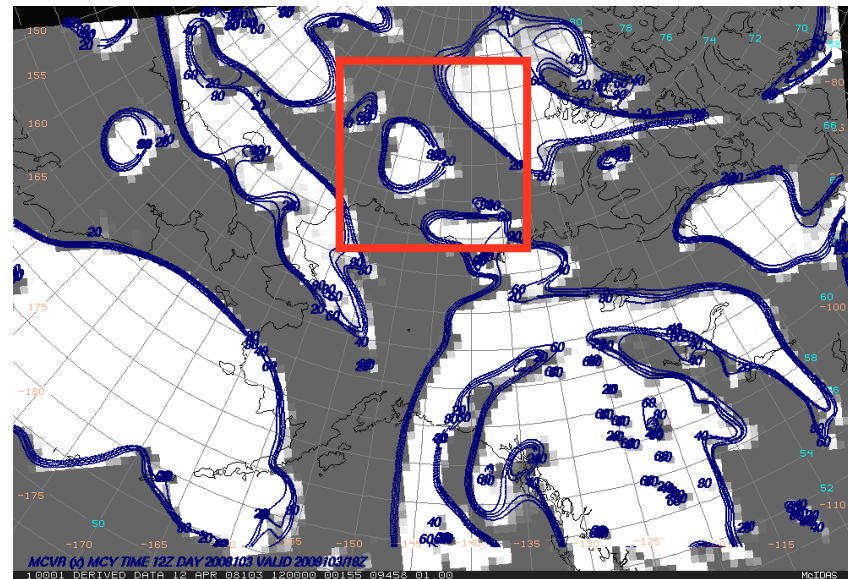


NOAA P-3 FLT 01 20080411

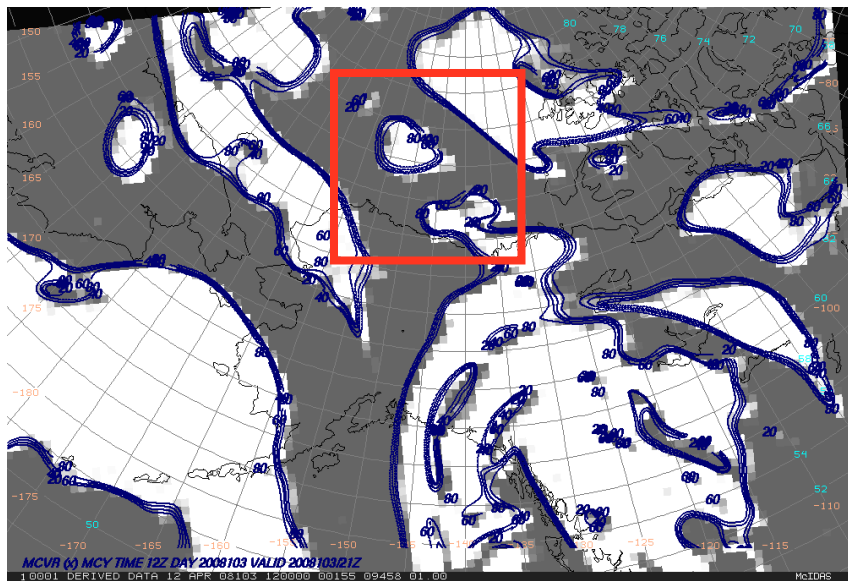
12Z 12 Apr



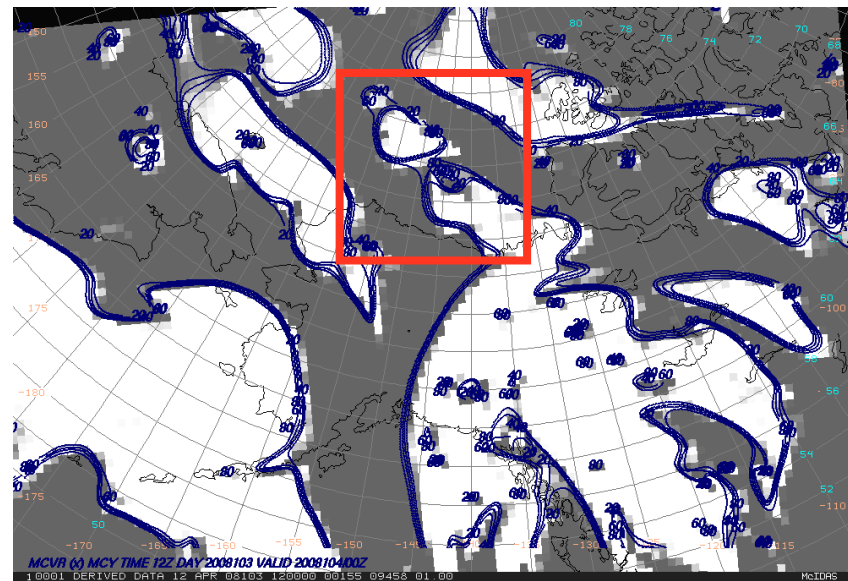
18Z 12 Apr



21Z 12 Apr

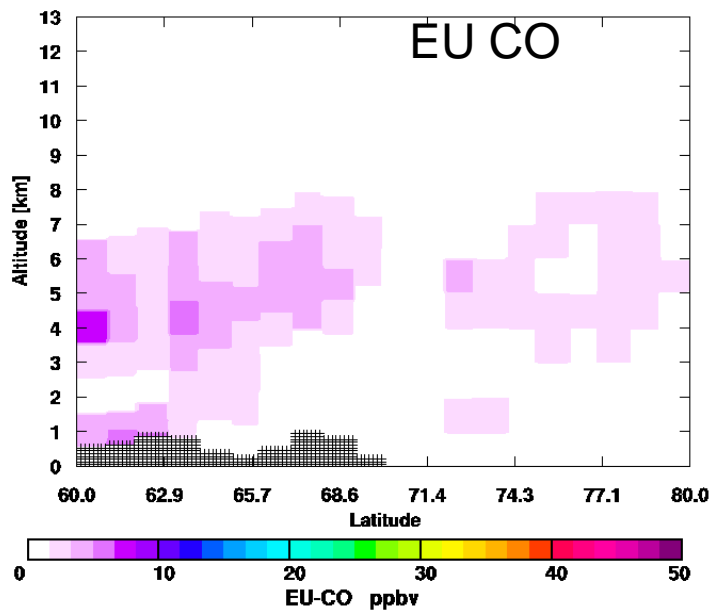


00Z 13 Apr

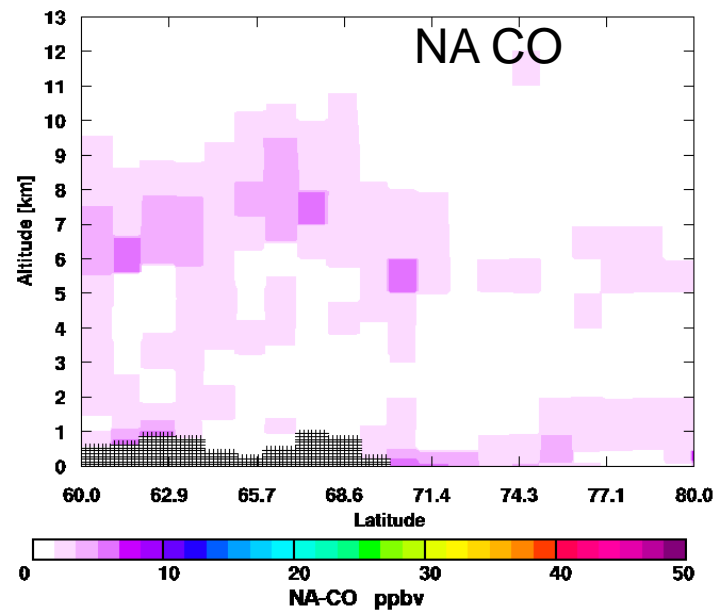
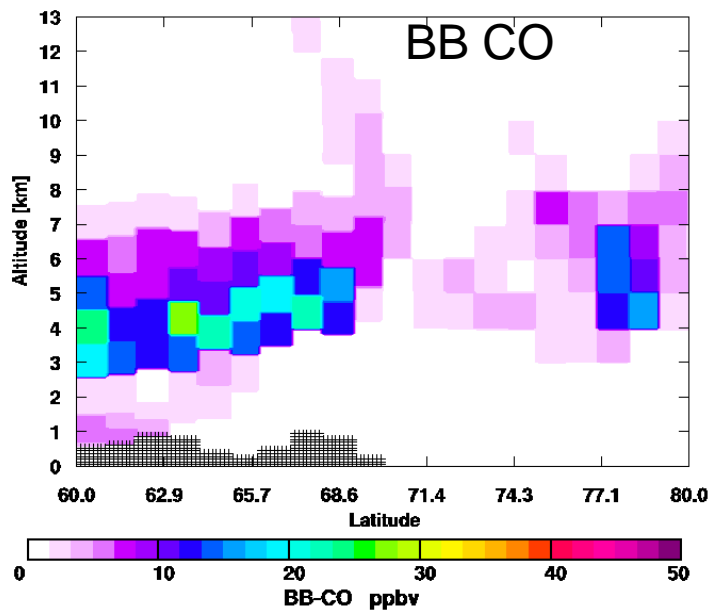
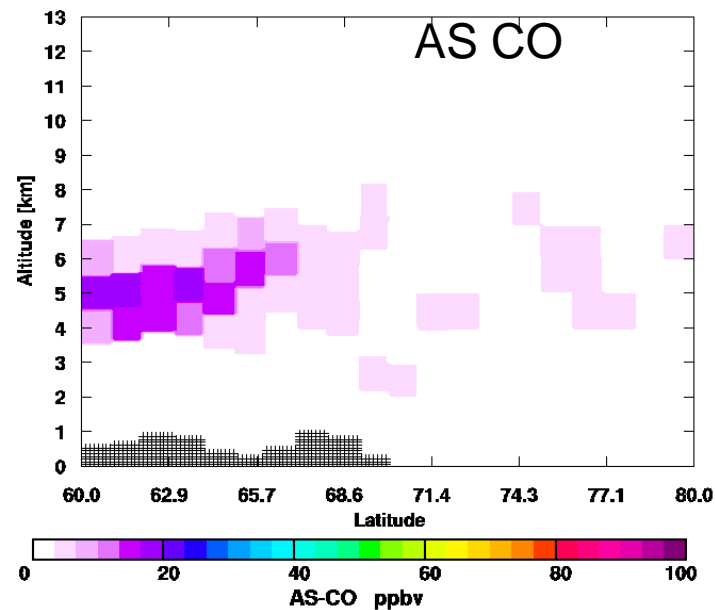


NAM mid-level clouds

CROSS SECTION FROM -150.0 TO -150.0 LONGITUDE AND 60.0 TO 80.0 LATITUDE
 EU-CO MIXING RATIO FOR AGE CLASS 0 - 20.00 DAYS
 ANALYSIS @ 20080412 60000 UTC ACTUAL @ 20080412 210000 UTC

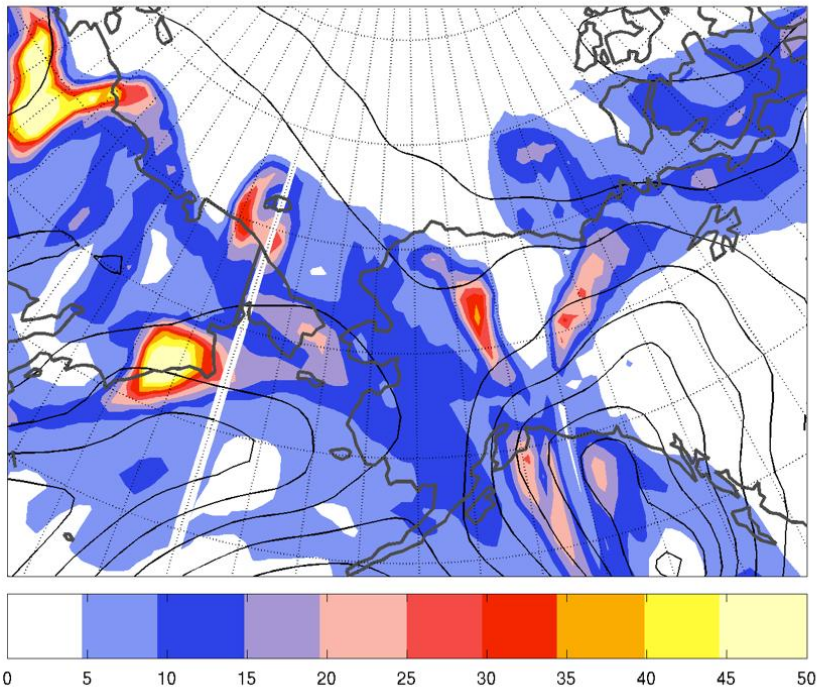


CROSS SECTION FROM -150.0 TO -150.0 LONGITUDE AND 60.0 TO 80.0 LATITUDE
 AS-CO MIXING RATIO FOR AGE CLASS 0 - 20.00 DAYS
 ANALYSIS @ 20080412 60000 UTC ACTUAL @ 20080412 210000 UTC

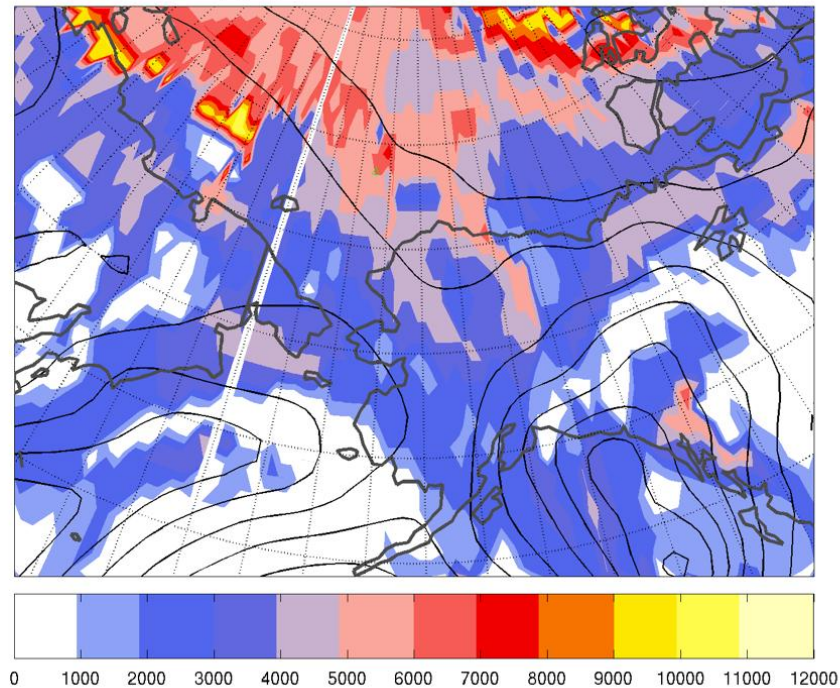


BB CO 20080412 21Z

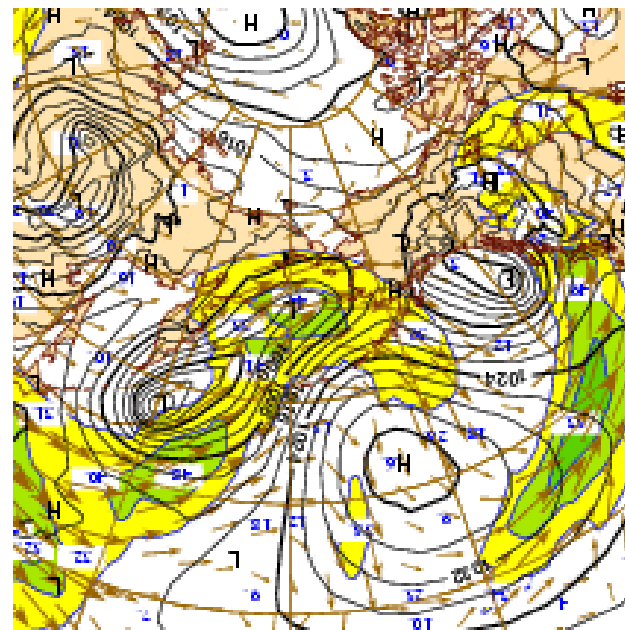
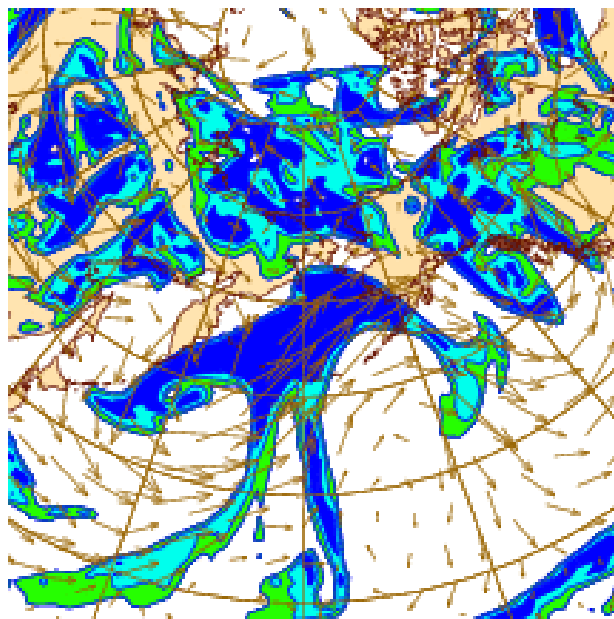
BB-CO on 21 UTC 2008-04-12 at level 3000-4000 (6)



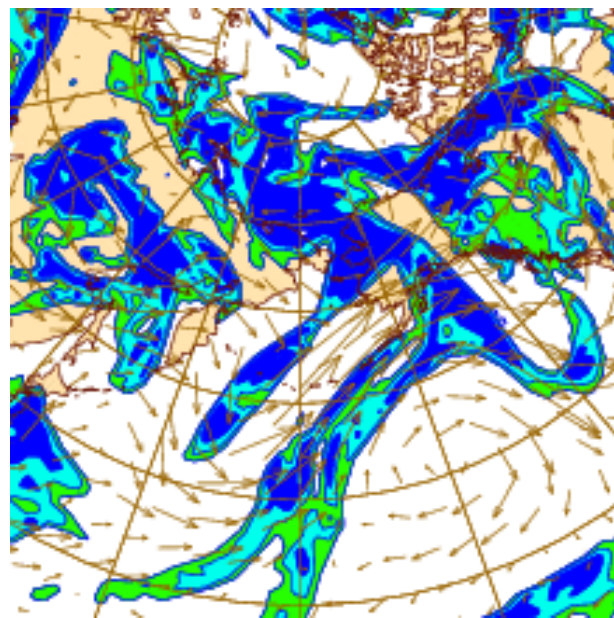
BB-CO at 0L (mg/m3, contours) on 21 UTC 2008-04-12 at level Total column



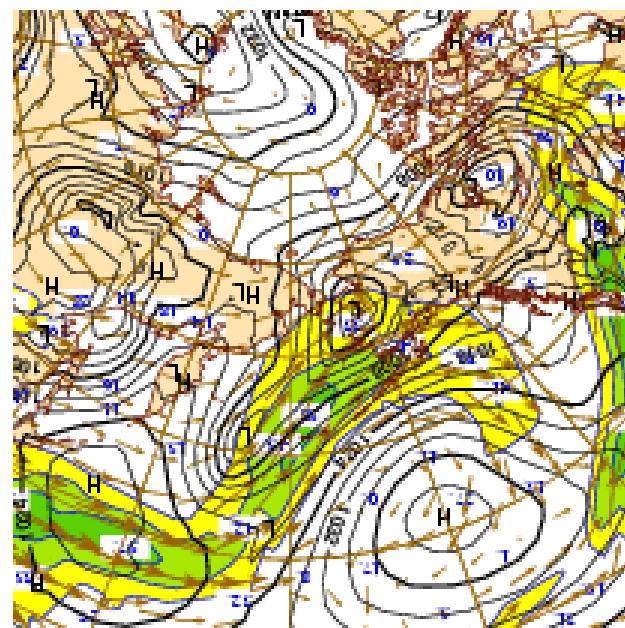
00Z 13 Apr
Sat 16LT



00Z 14 Apr
Sun 16LT

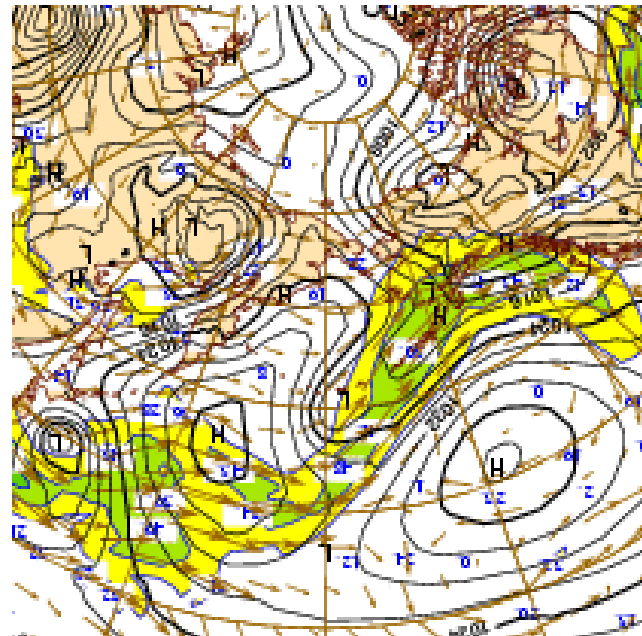
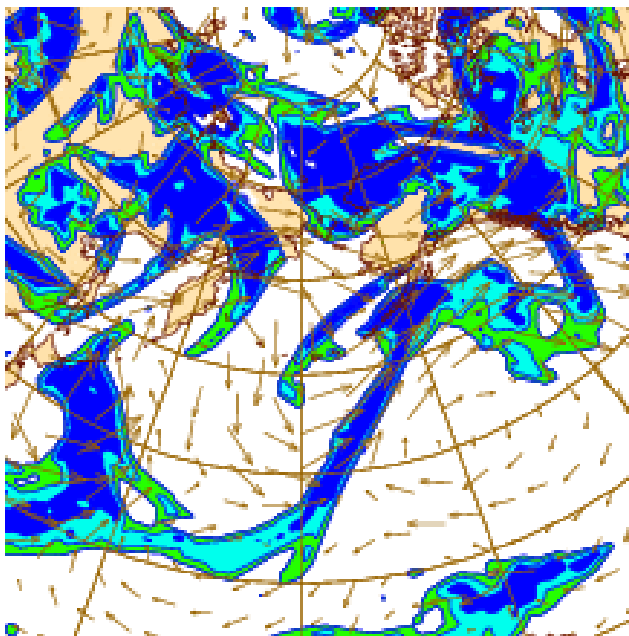


RH700hPa

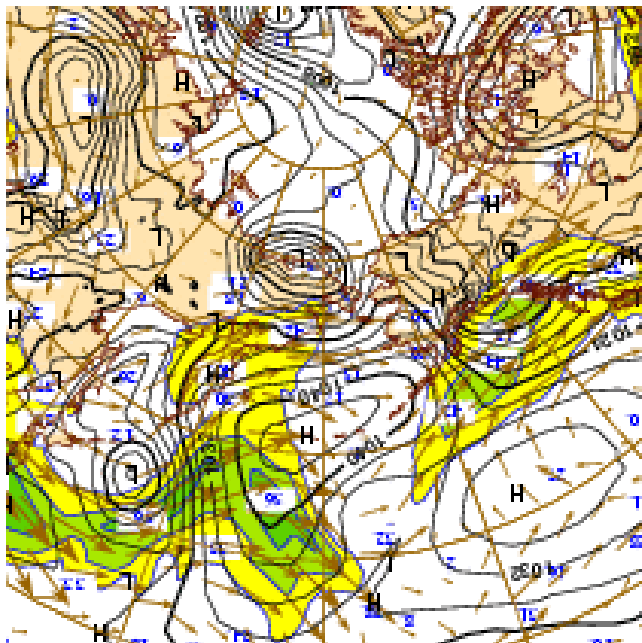
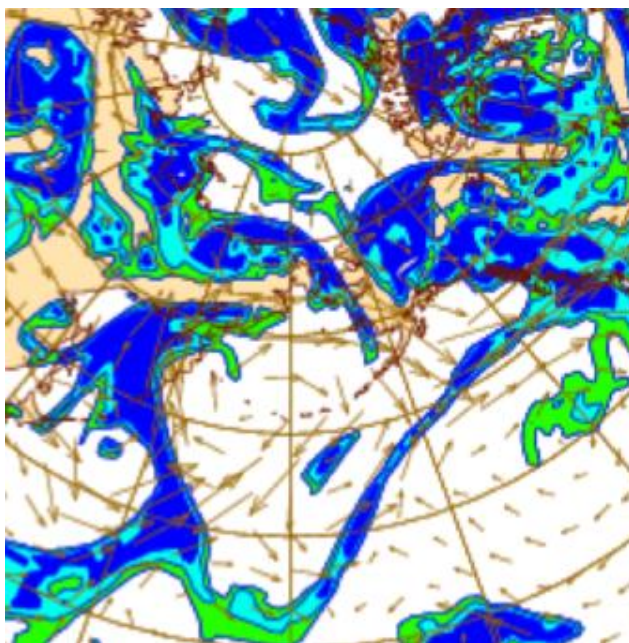


SLP, VEL200, (ECMWF)

00Z 15 Apr
Mon 16LT



00Z 16 Apr
Tue 16LT



RH700hPa

SLP, VEL200, (ECMWF)

RAQMS Fairbanks Local FX Discussion:

Today's flight:

00Z 04/13/2008

(36hr vs 60hr)

initialized 12Z 04/11 and 04/10/2008

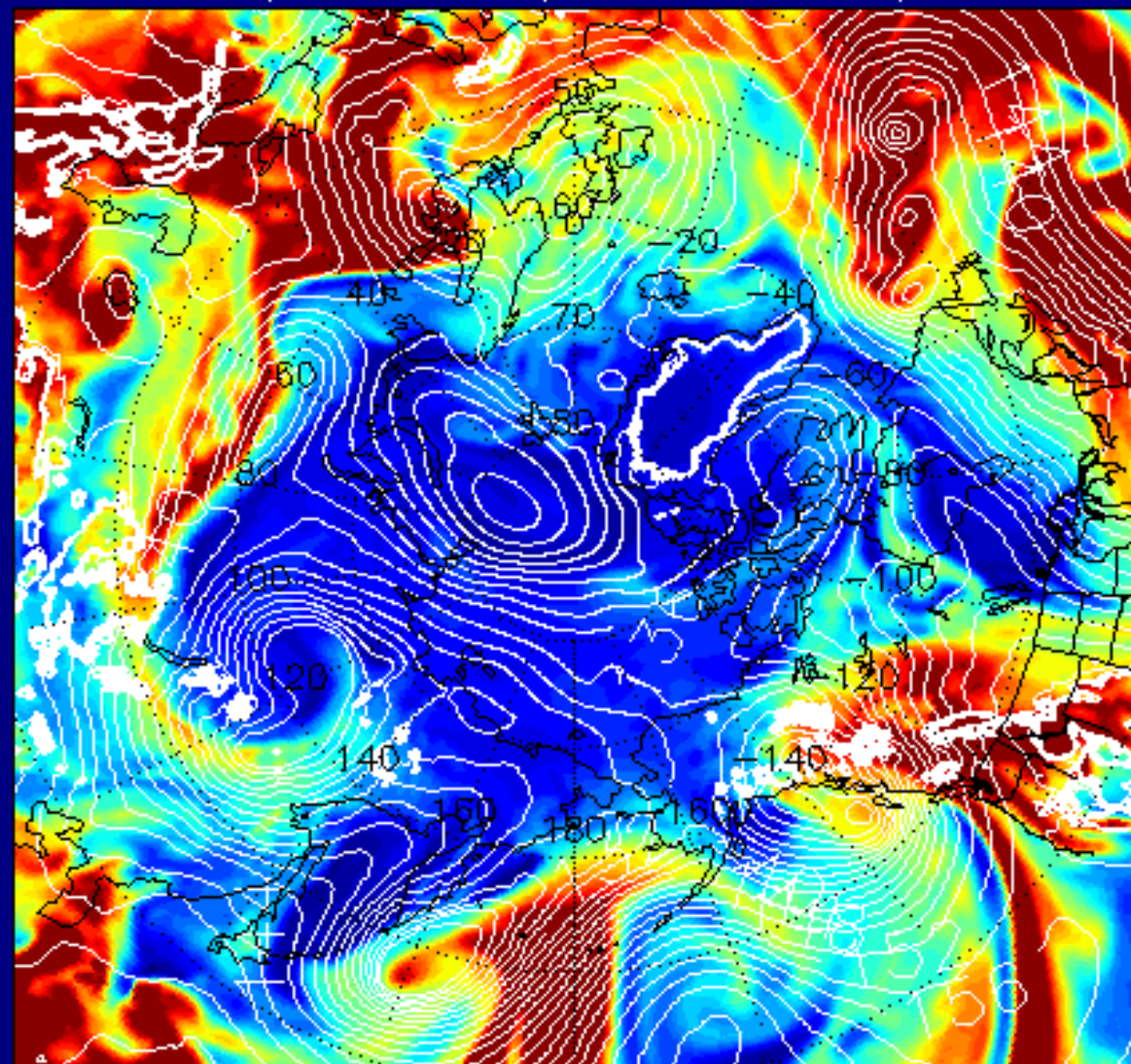
Long-range outlook:

00Z 04/14-04/16

Initialized 12Z 04/11

GFS 850mb Q 00Z 20080413

(Pressure Contoured/SFC Intersection Dashed)



0

1

2

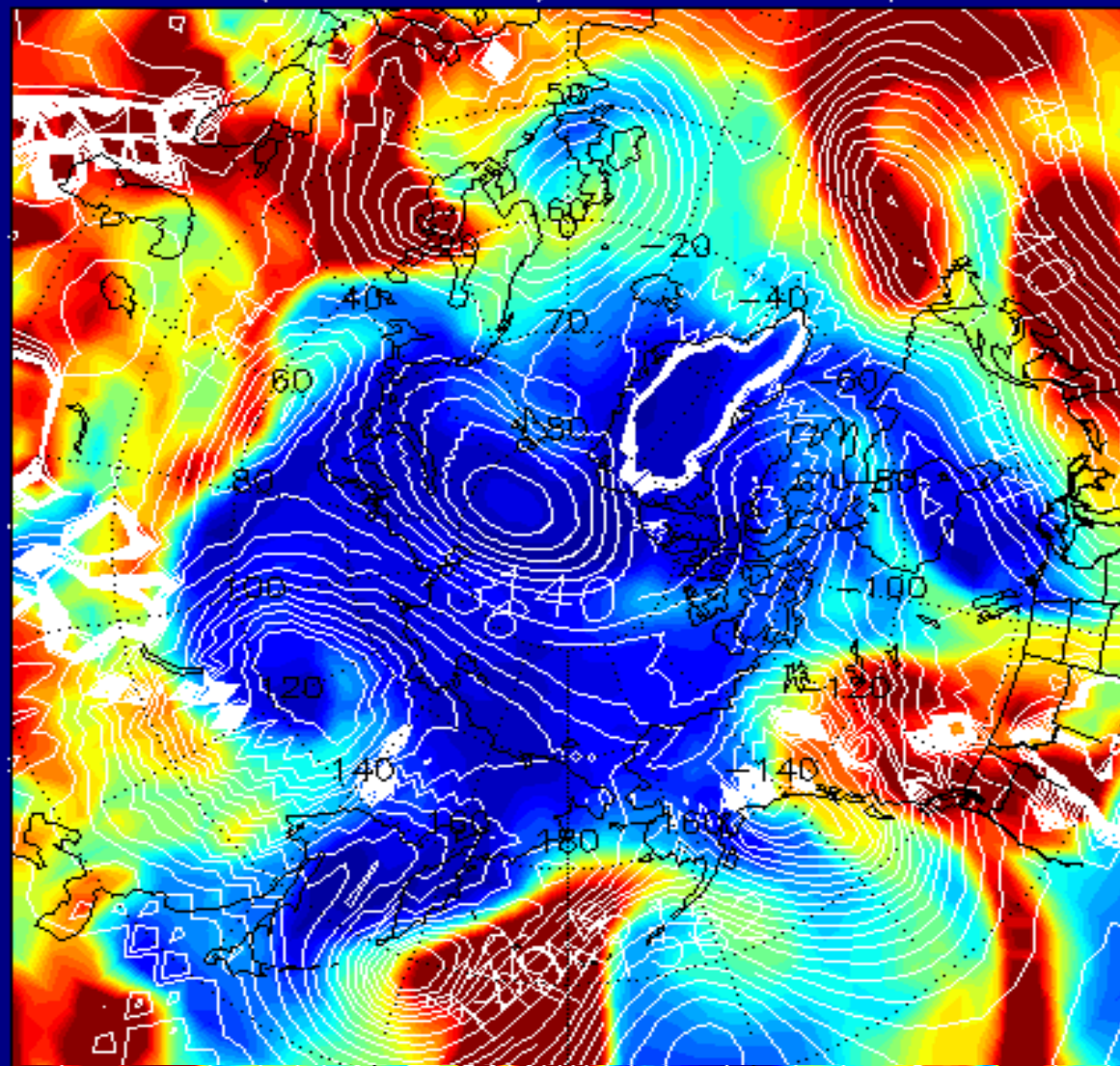
3

4

5

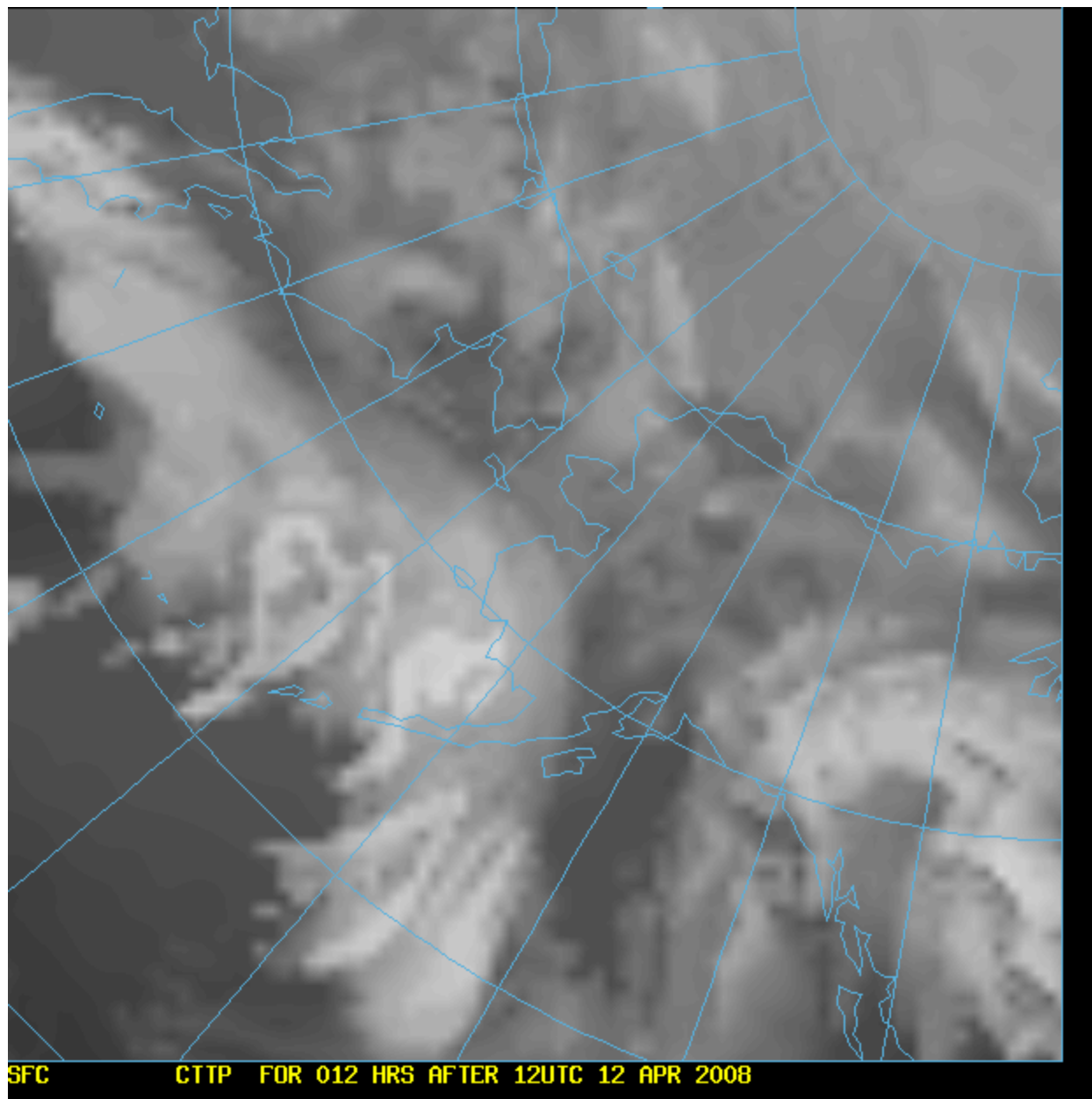
RAQMS 850mb Q 00Z 20080413

(Pressure Contoured/SFC Intersection Dashed)



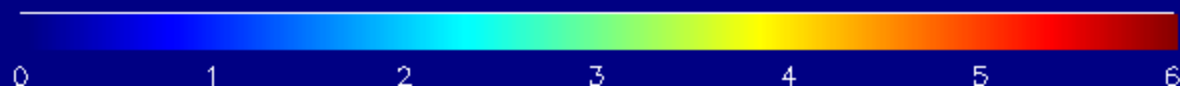
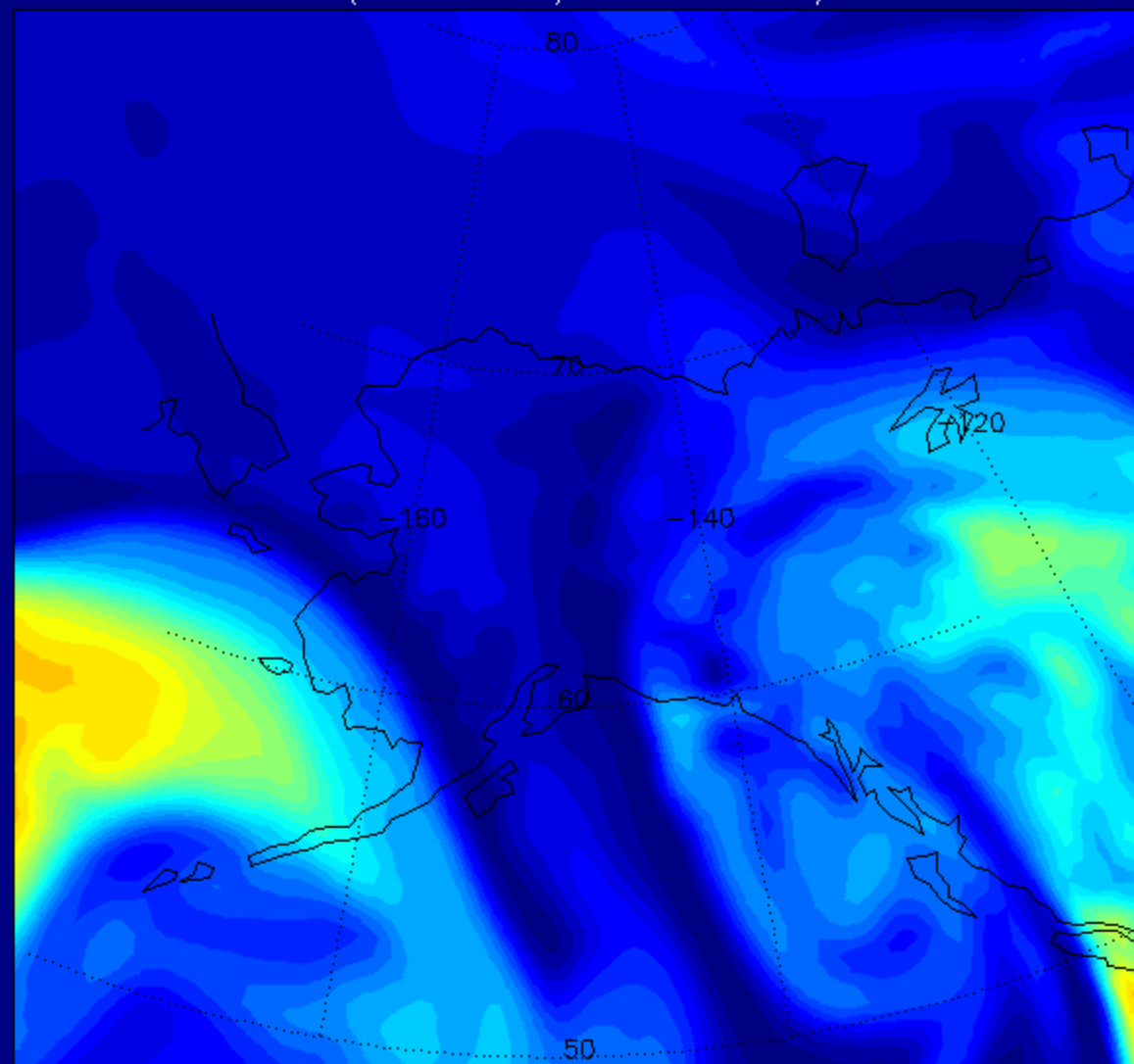
RAQMS trough digs slightly deeper, deeper low center at Anchorage

CRAS 12hr GOES visible FX valid 00Z 04/13



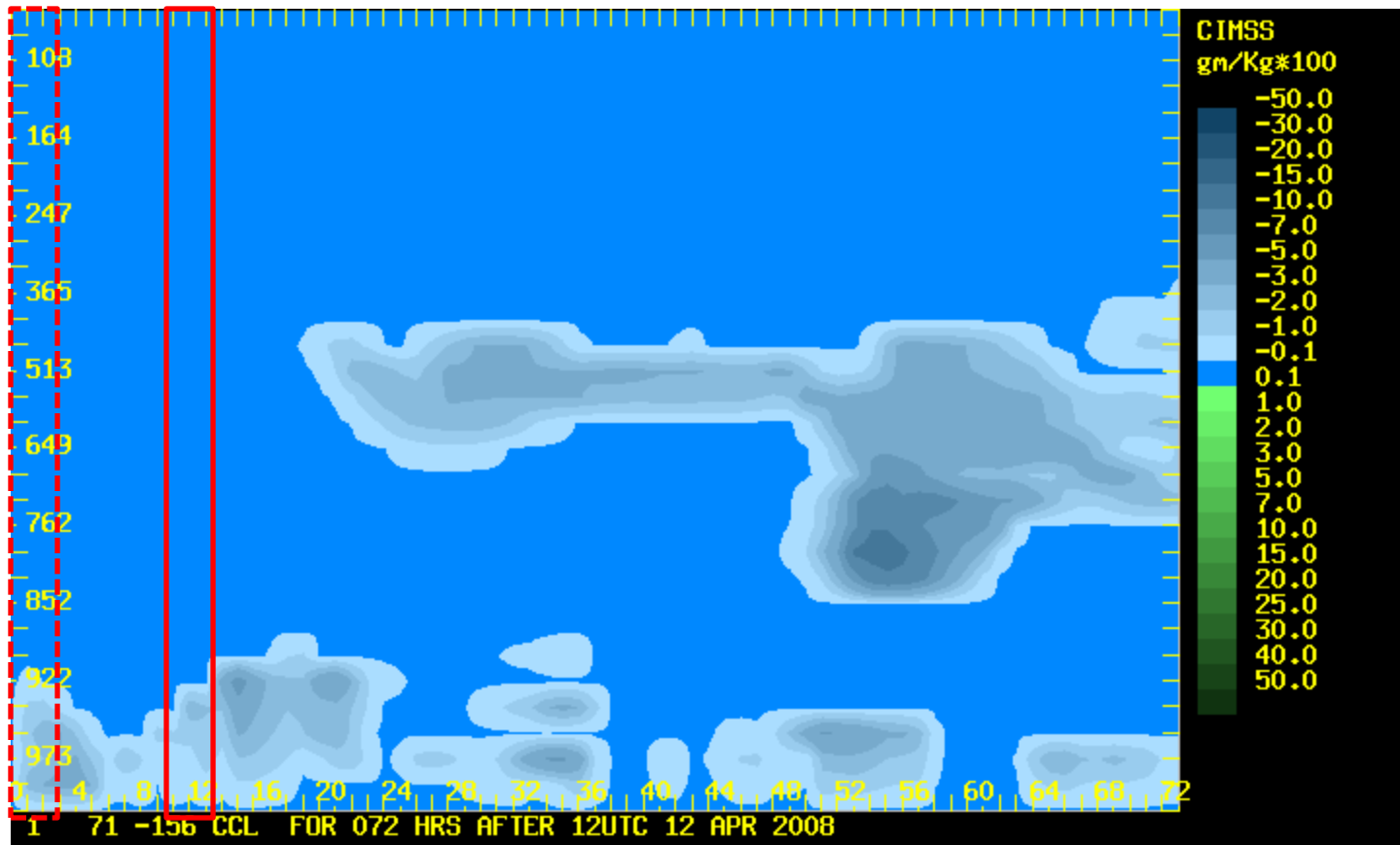
GFS 3km Q 00Z 20080413

(Pressure Contoured/SFC Intersection Dashed)



CRAS Barrow Cloud Prediction 12Z 04/12- 12Z 04/15

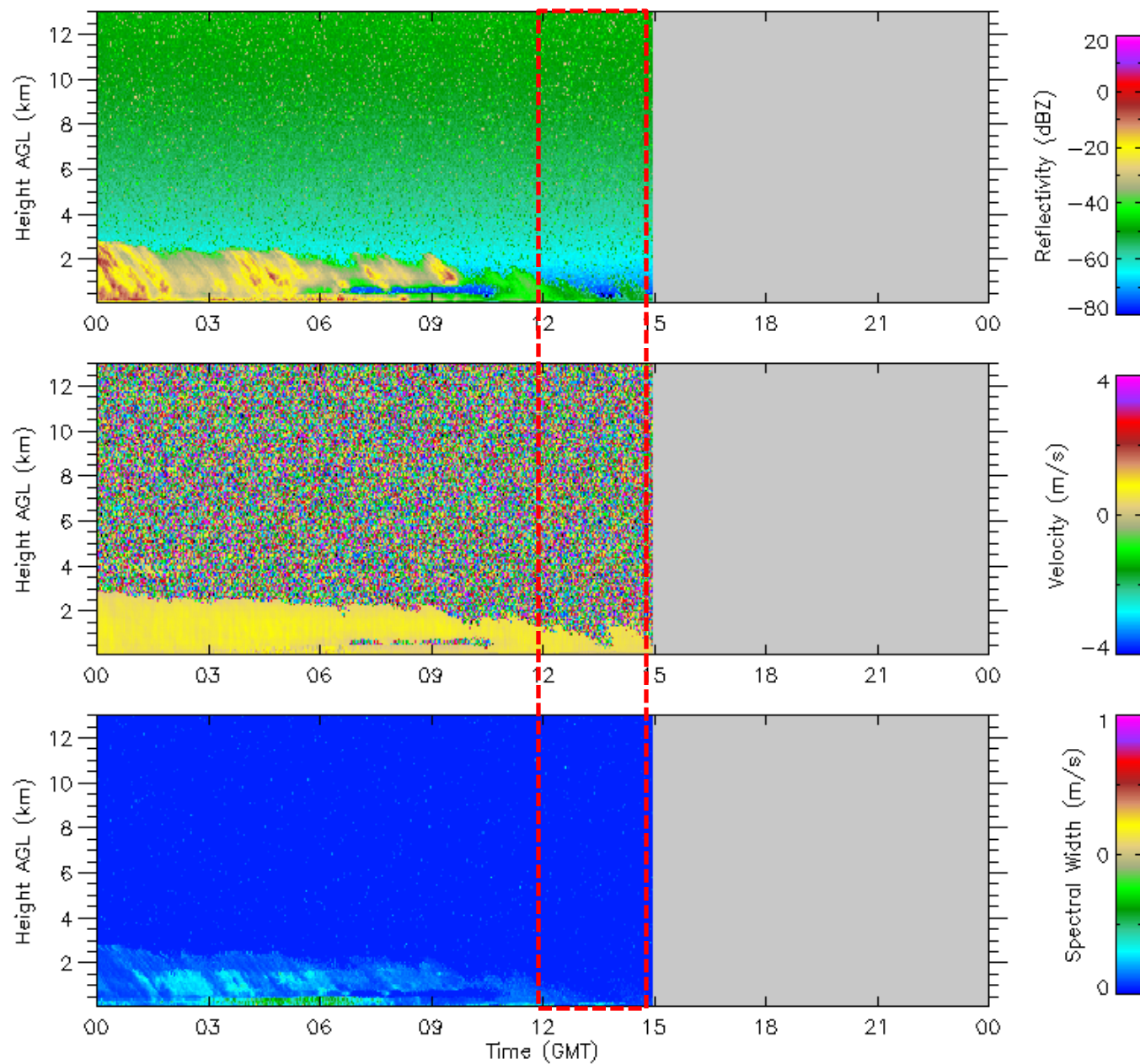
DC8 Intercomparison



MPL overlap

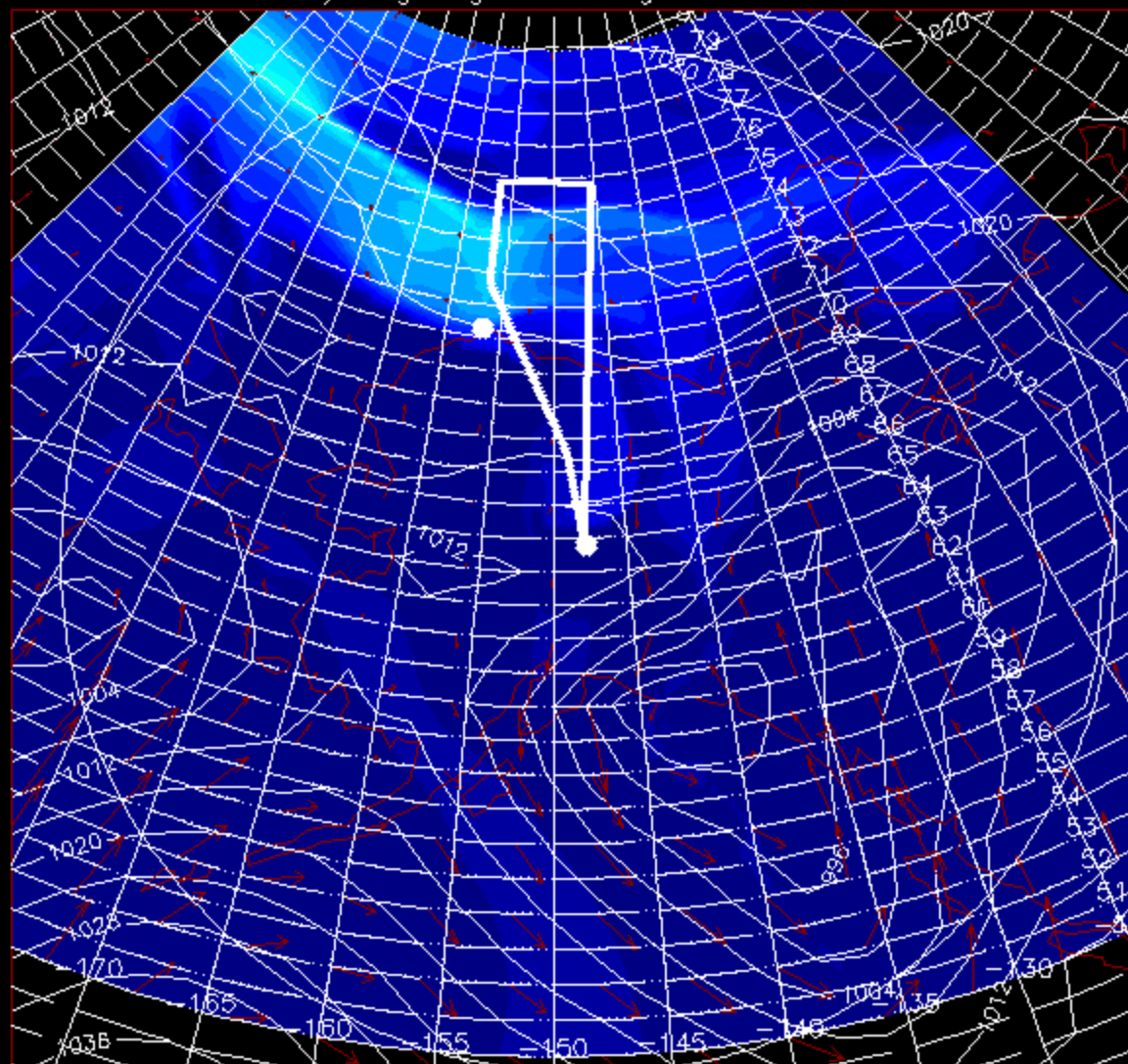
20080412

nsammcrmomC1.b1, General, Mode 3



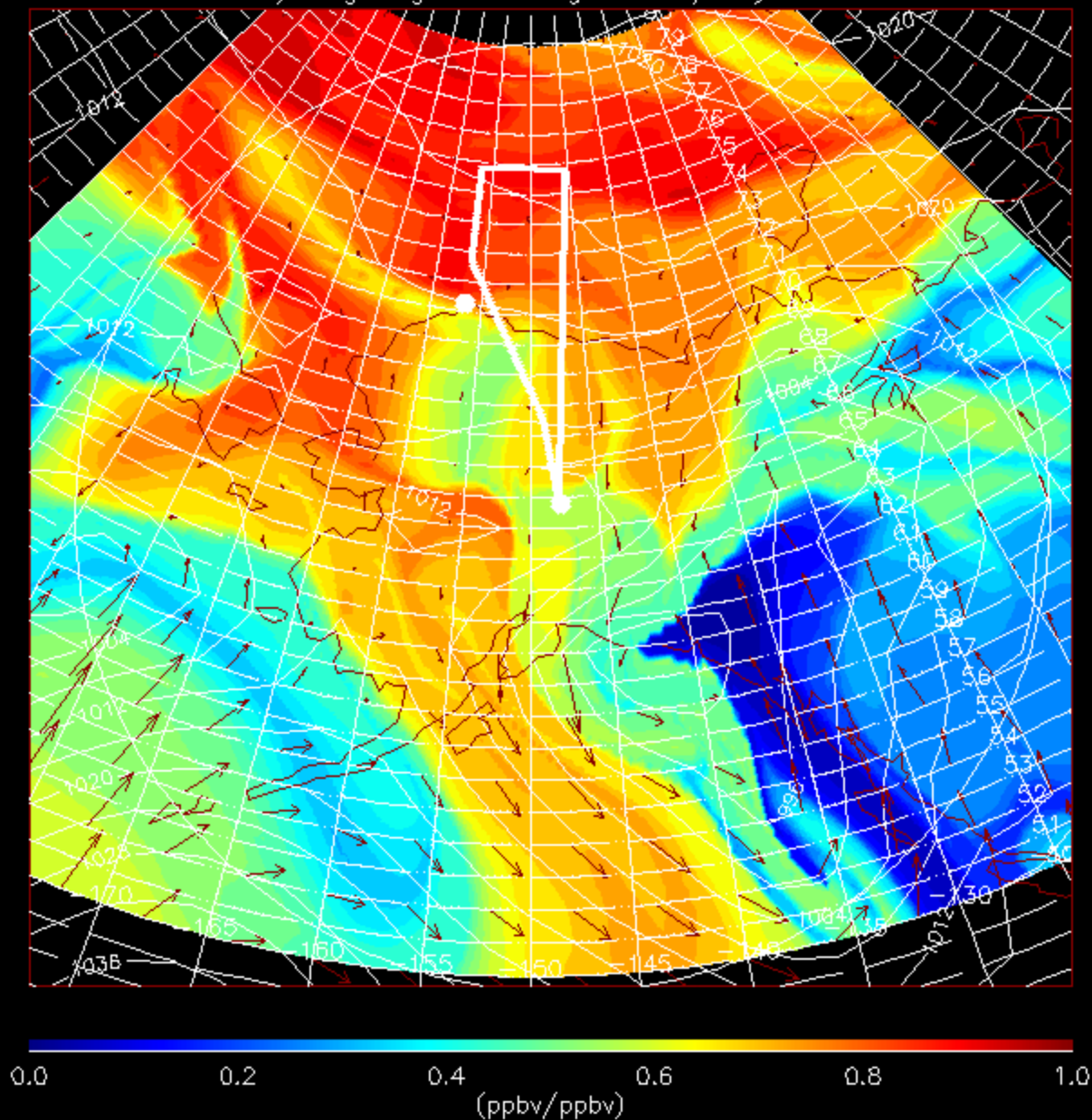
RAQMS 36hr FX

SFC 5-day Lagrangian Averaged BrO 2008041300



RAQMS 36hr FX

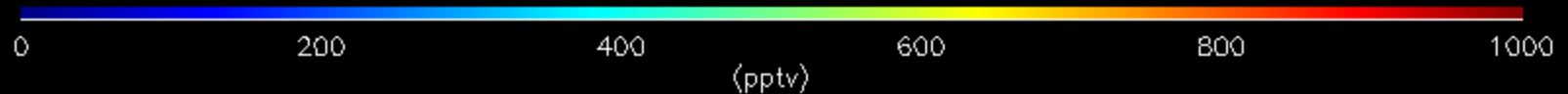
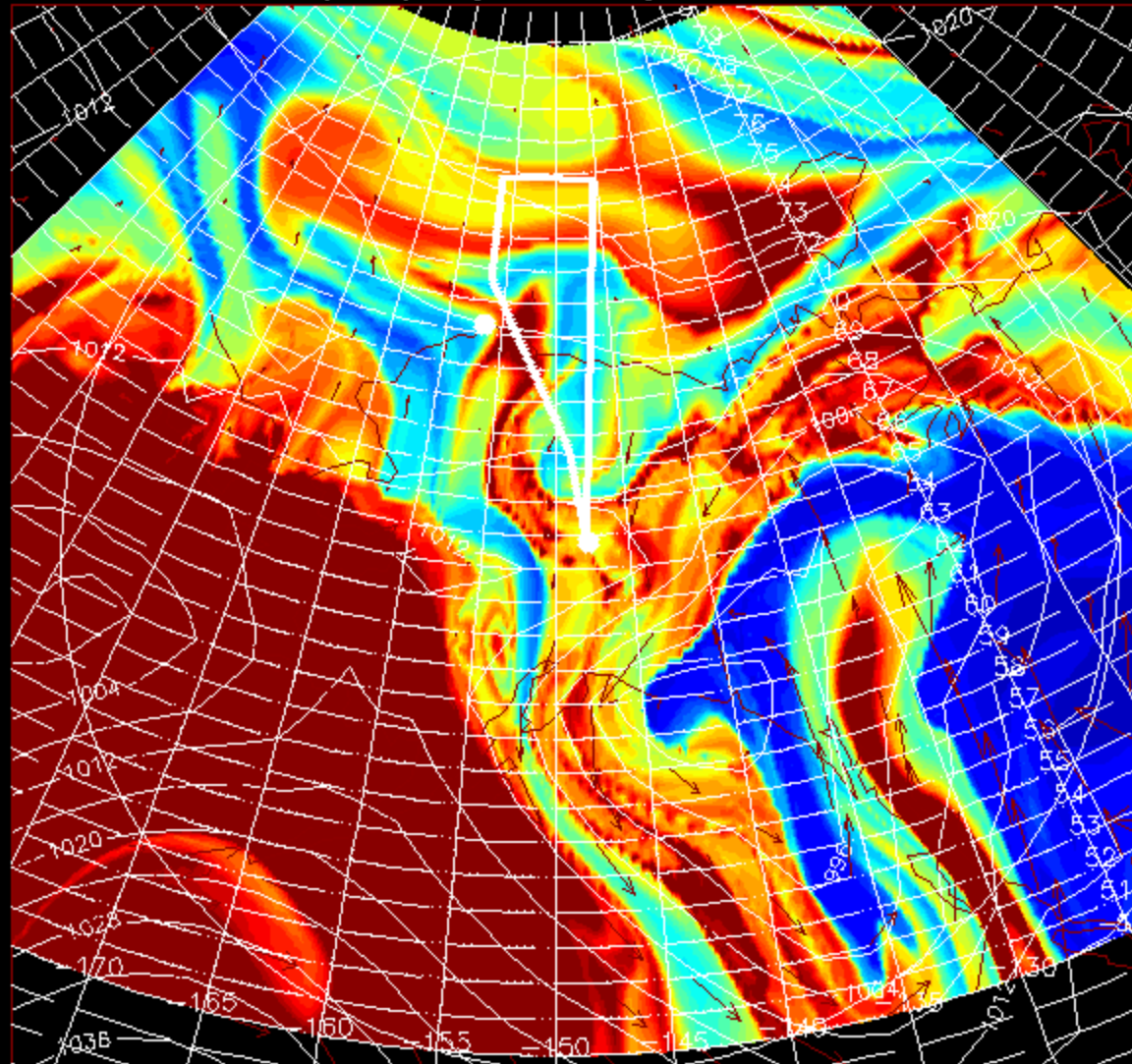
SFC 5-day Lagrangian Averaged PAN/NO_y 2008041300



Sample aged Arctic BL over Arctic Ocean

RAQMS 36hr FX

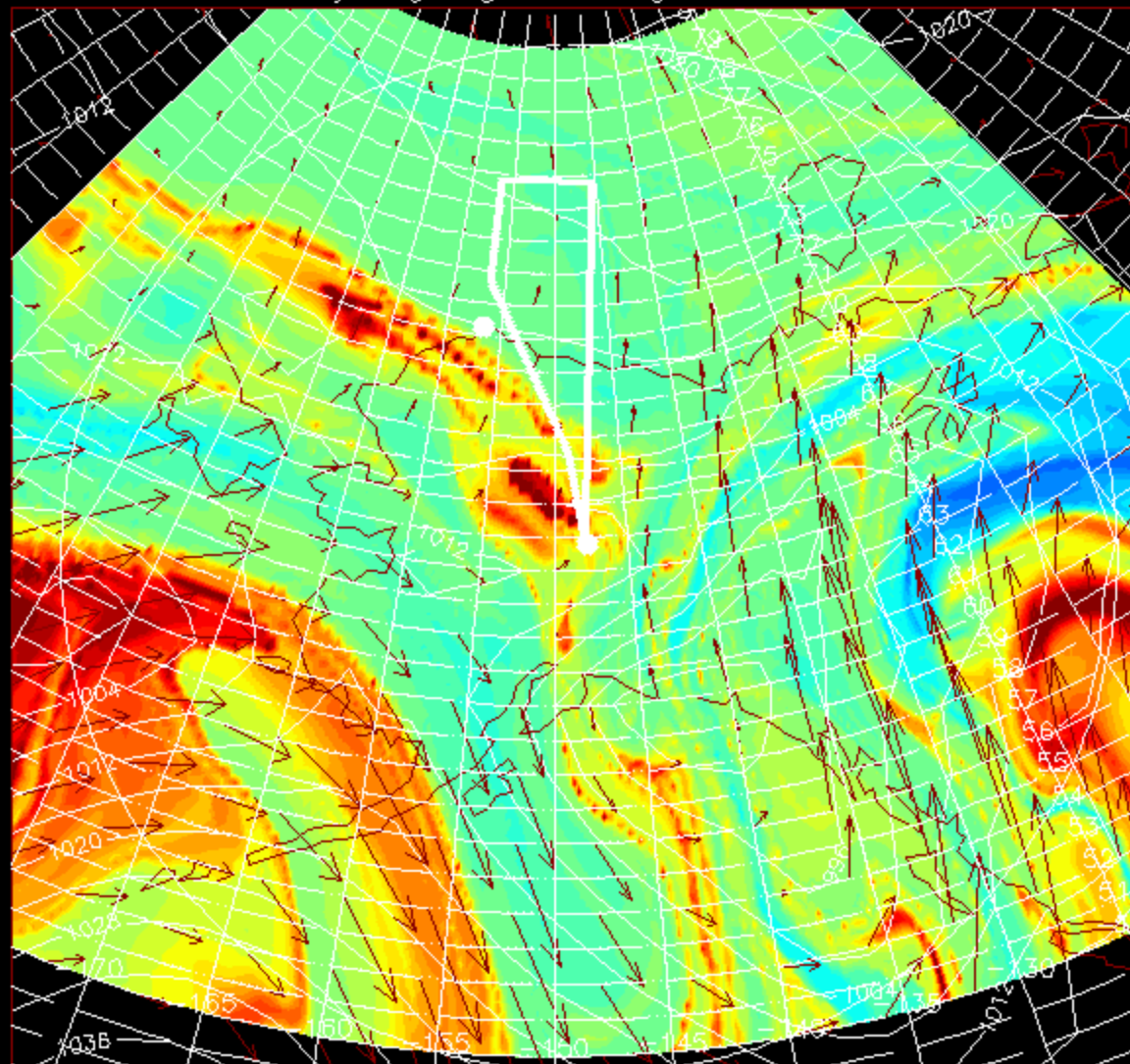
1km 5-day Lagrangian Averaged S04 2008041300



Higher Aerosol loading at 1km in Arctic Airmass

RAQMS 36hr FX

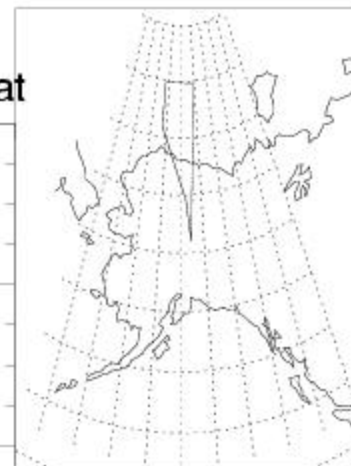
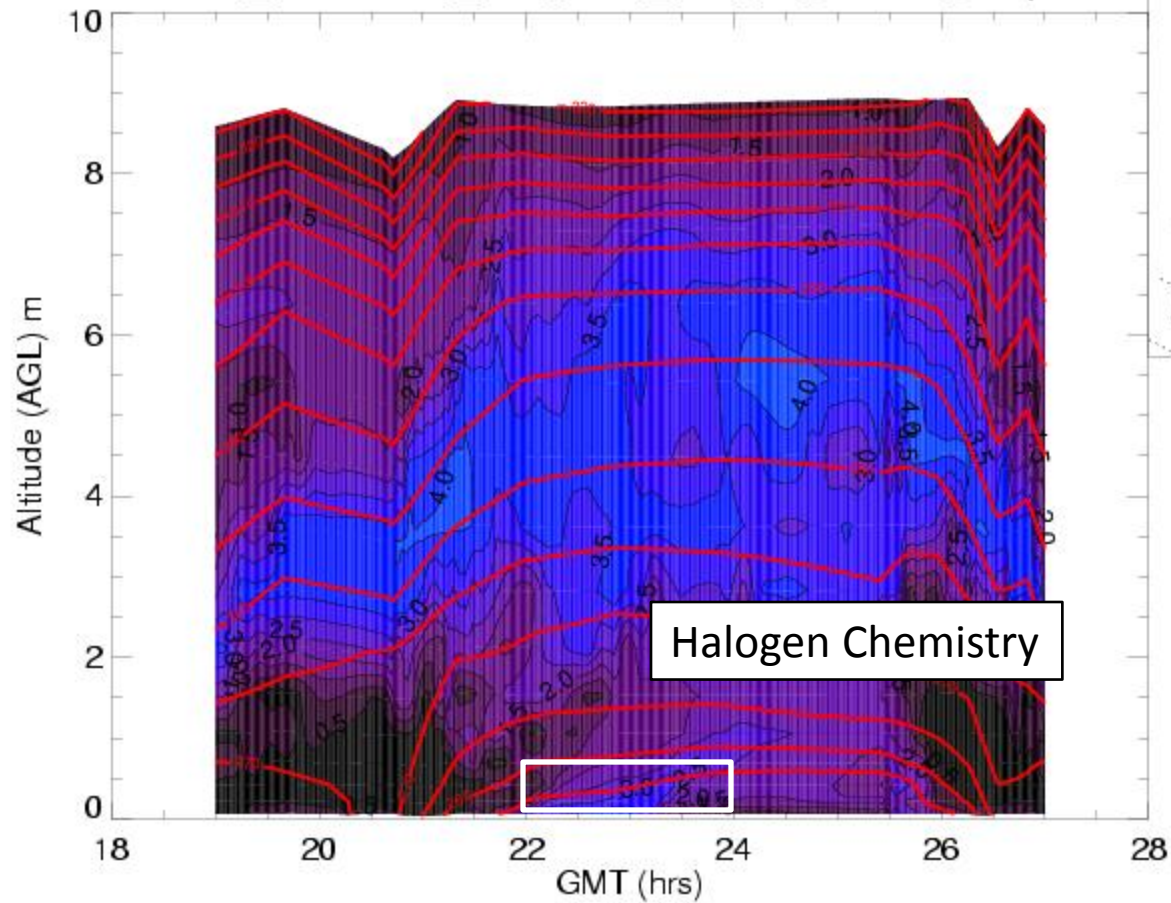
5km 5-day Lagrangian Averaged CO 2008041300



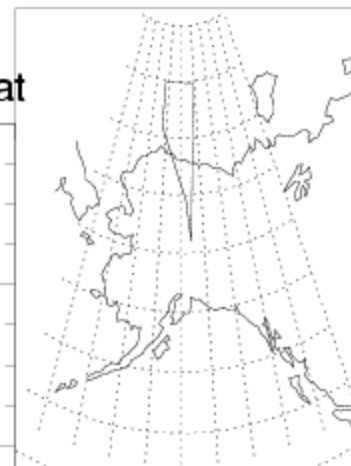
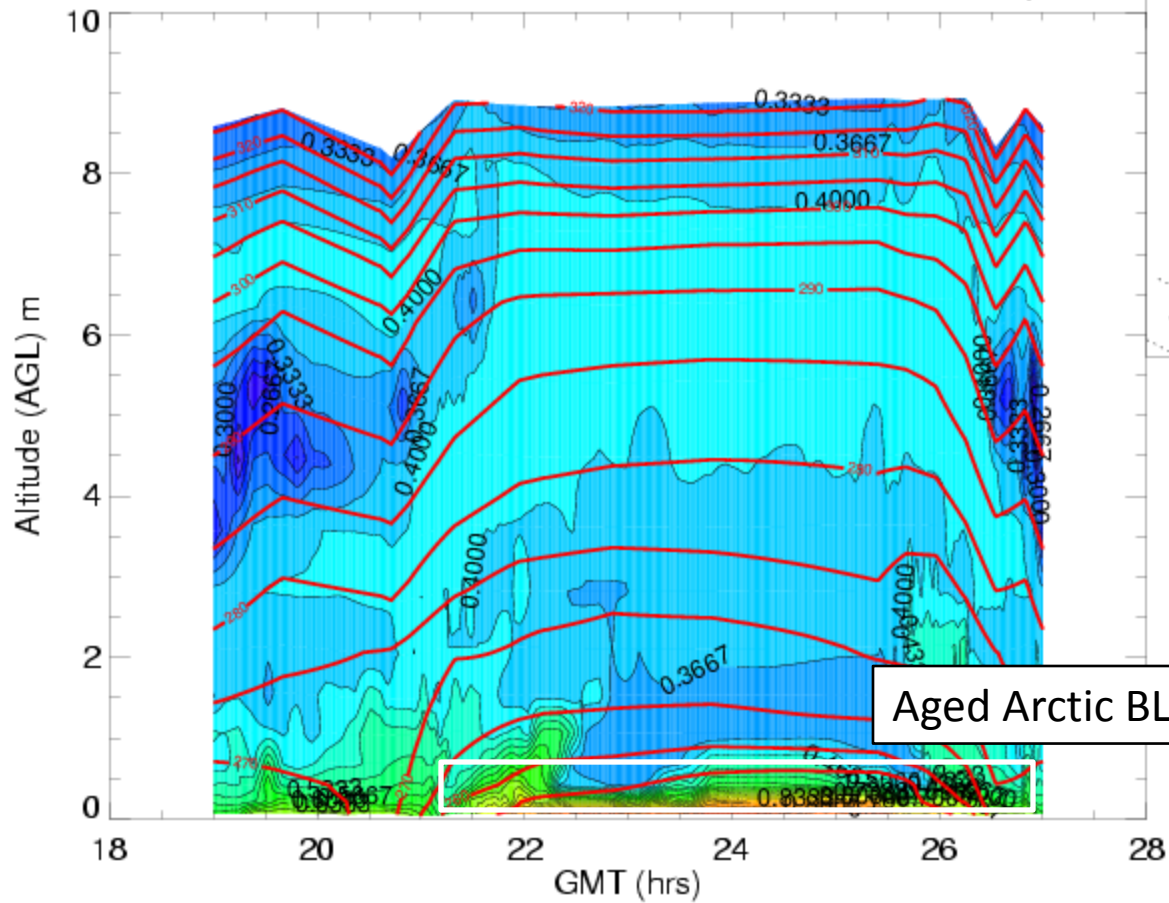
100 120 140 160 180 200 220 240
(ppbv)

CO enhancement (BB) at 5km in route to DC8 intercomparison

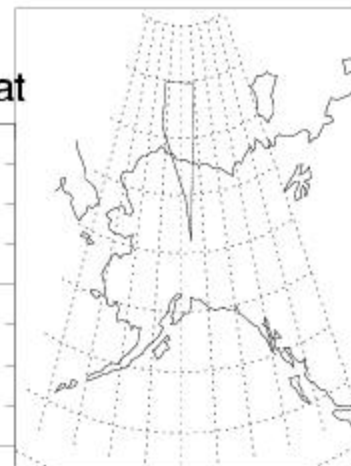
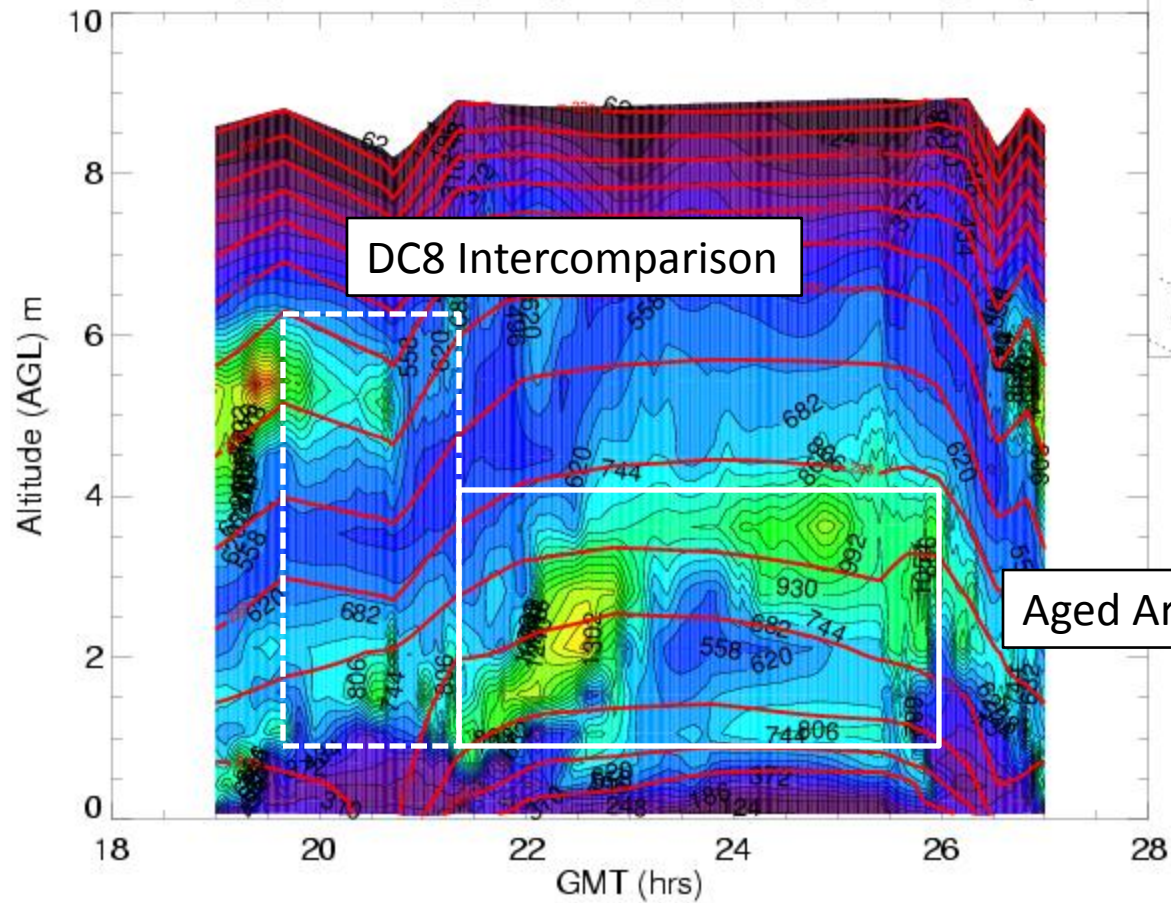
36hr FX ibro Cl= 0.500000 max= 4.25398
RAQMS_20080413_00Z_36hr_fcst_rdf_curtain_arcpac.dat



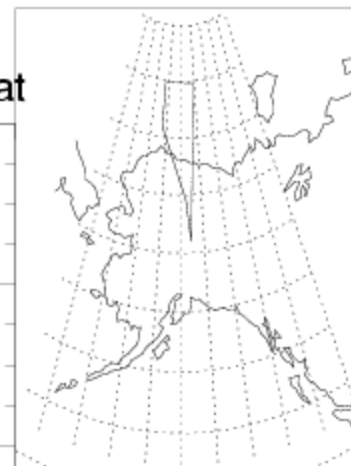
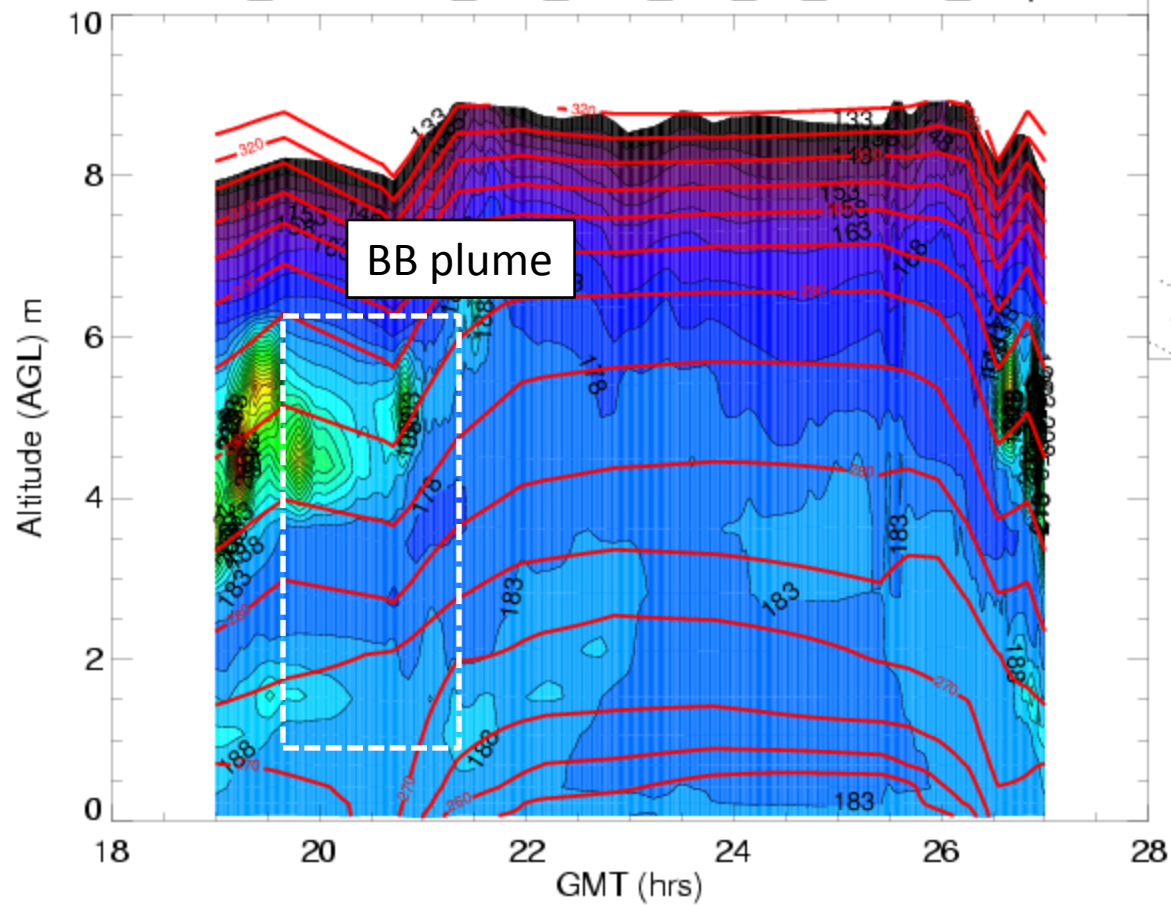
36hr FX ipannoy CI= 0.0333333 max= 0.915900
RAQMS_20080413_00Z_36hr_fcst_rdf_curtain_arcpac.dat



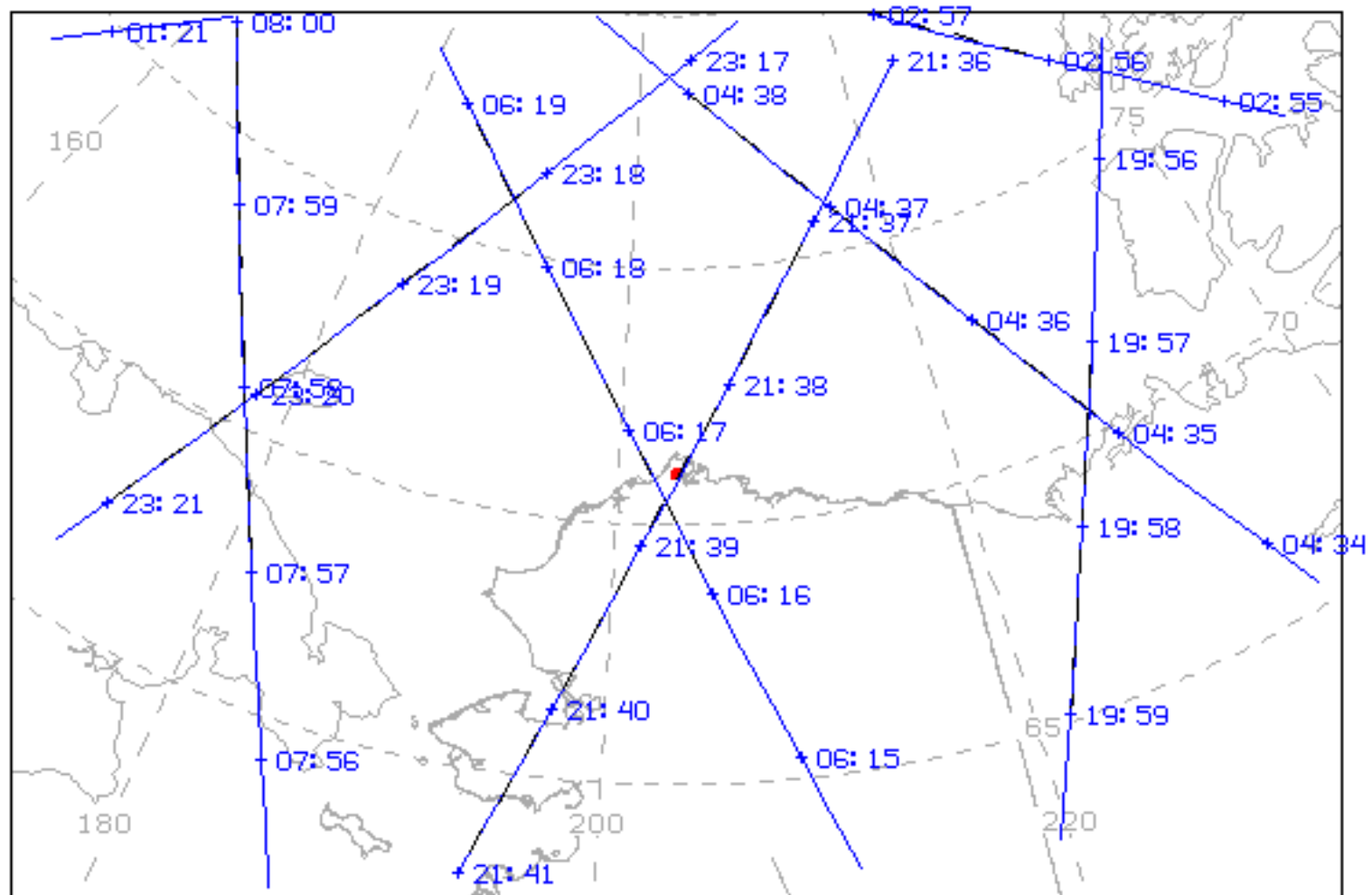
36hr FX iso4 Cl= 62.0000 max= 1866.83
RAQMS_20080413_00Z_36hr_fcst_rdf_curtain_arcpac.dat



36hr FX ico CI= 5.00000 max= 309.478
RAQMS_20080413_00Z_36hr_fcst_rdf_curtain_arcpac.dat



Sunday METOP-A IASI overpass



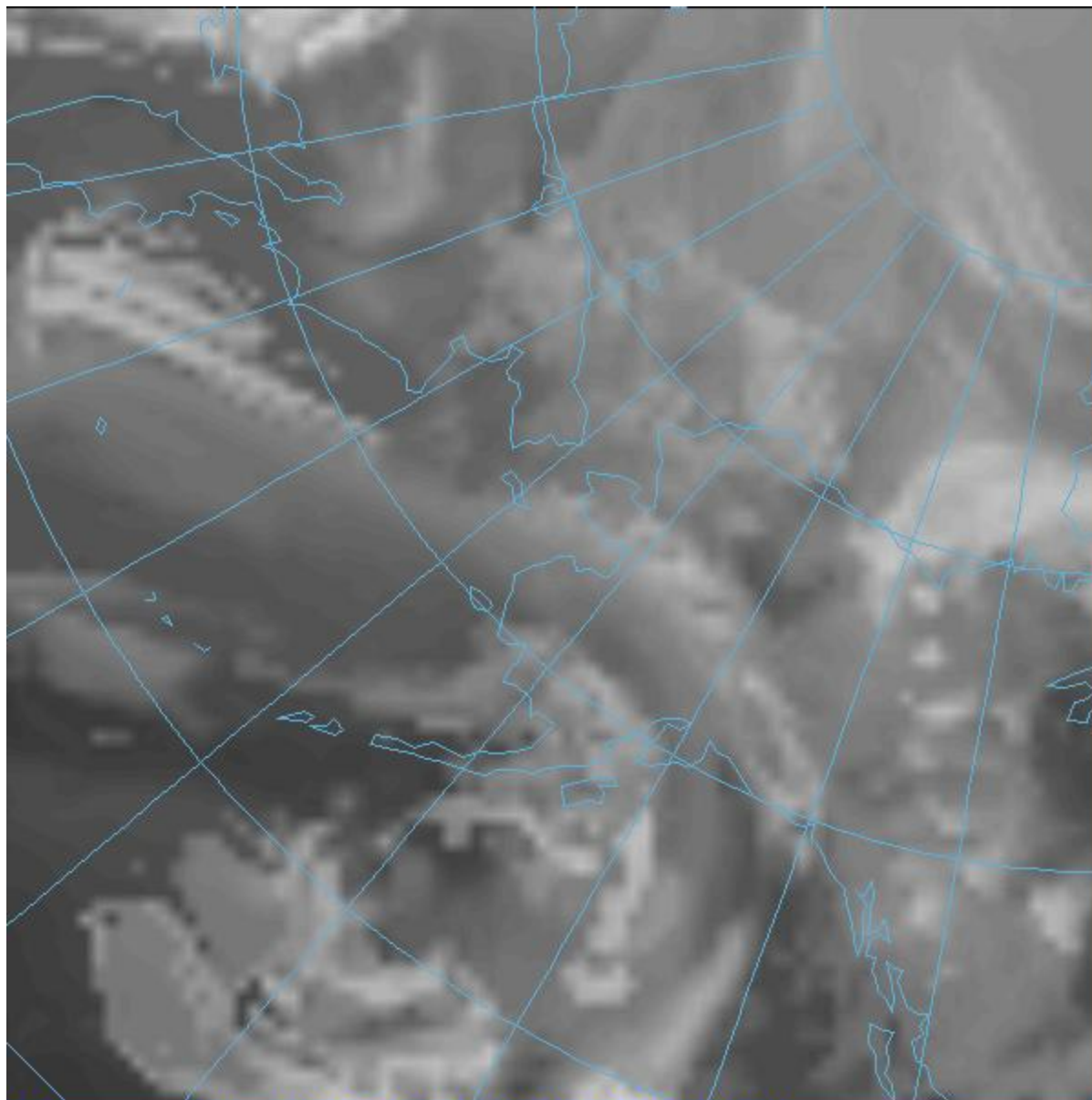
METOP-A 2008/04/13 UTC

METOP-A ORBITAL PREDICT PLOT

EPOCH DATE: 08/04/09

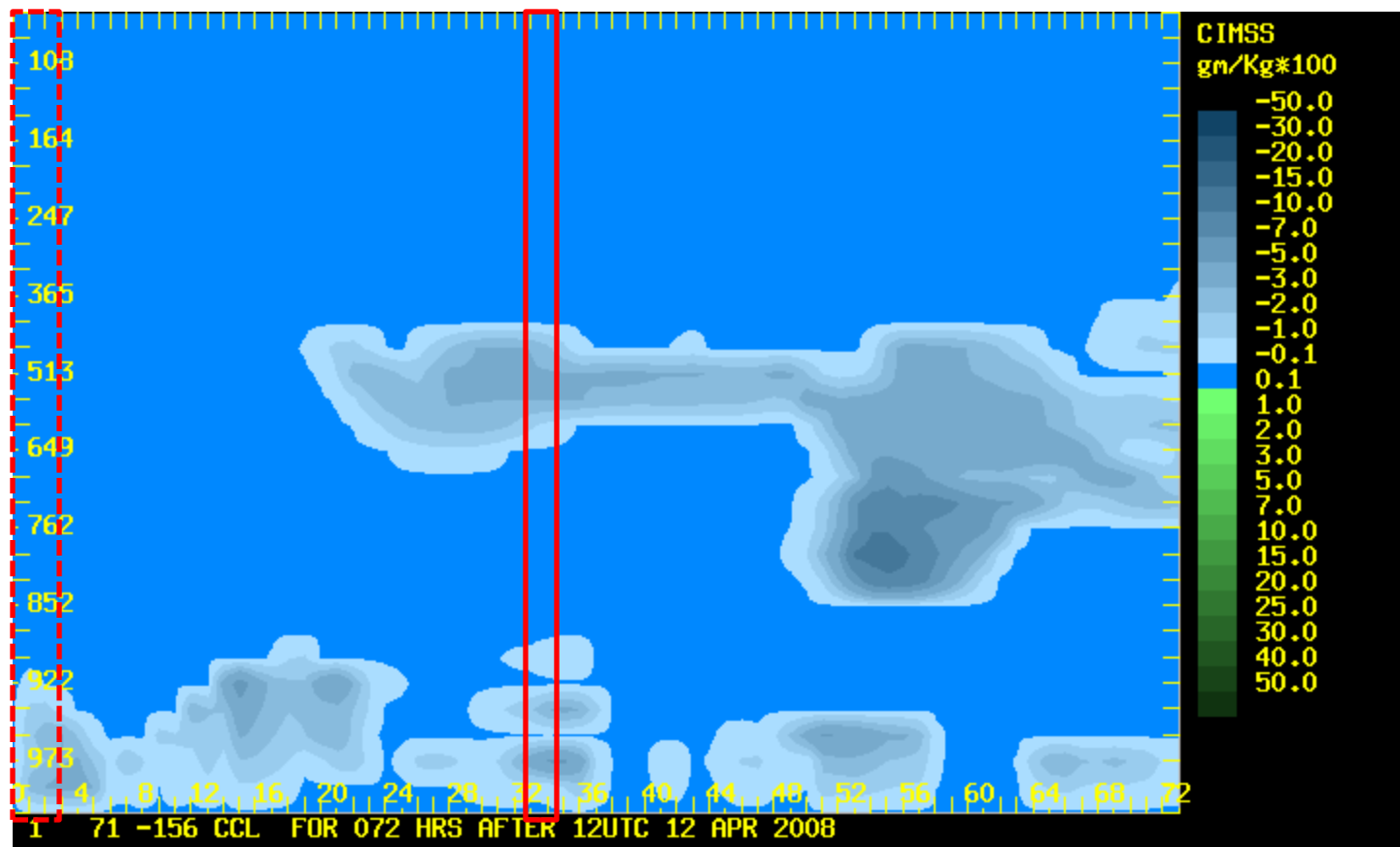
■ lat: 71.333 lon: 203.334 res: 9 km

CRAS 36hr GOES visible FX valid 00Z 04/14



SFC

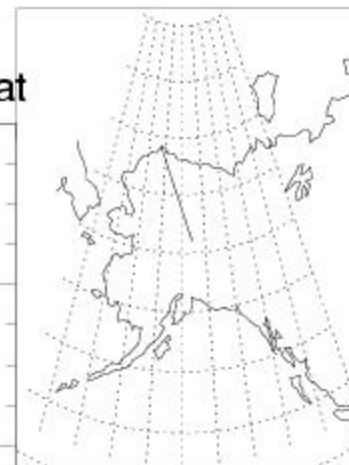
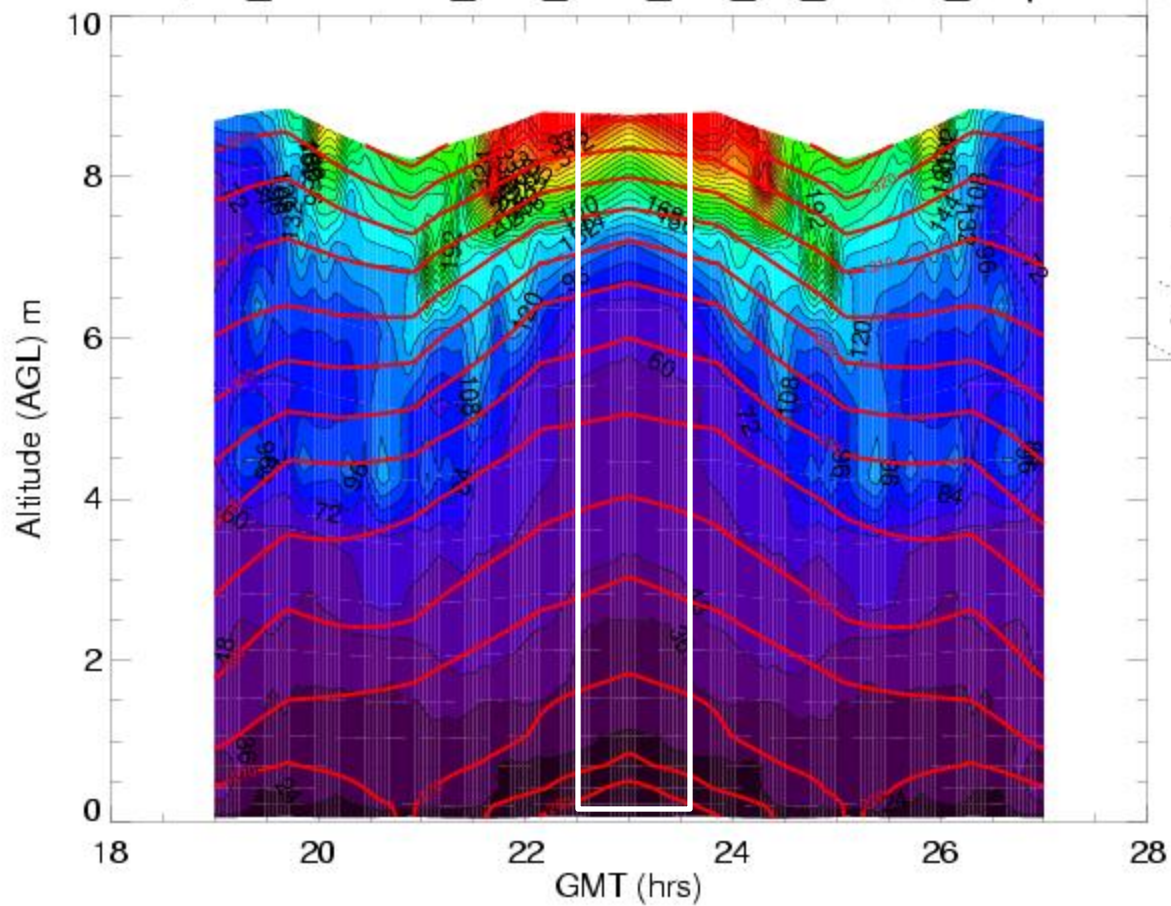
CTTP FOR 036 HRS AFTER 12UTC 12 APR 2008

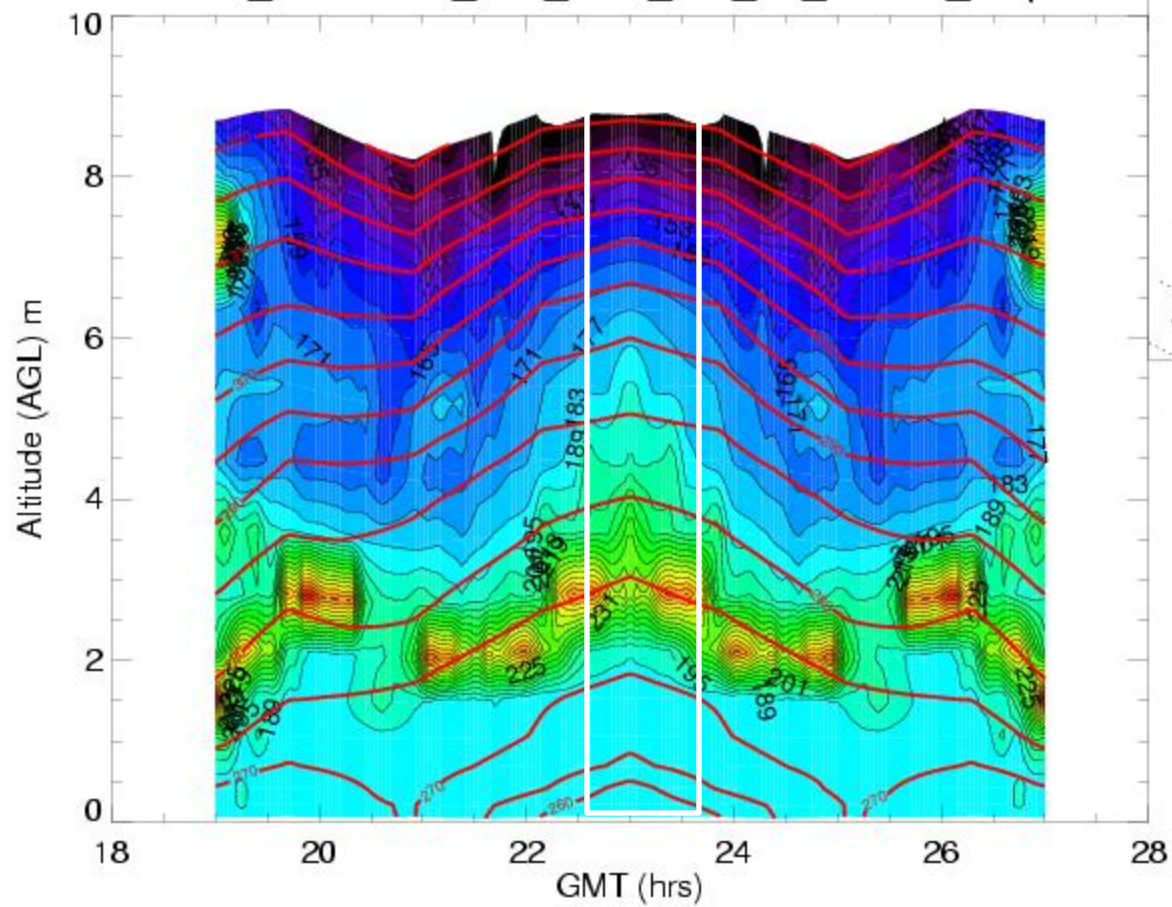


MPL overlap

IASI overpass

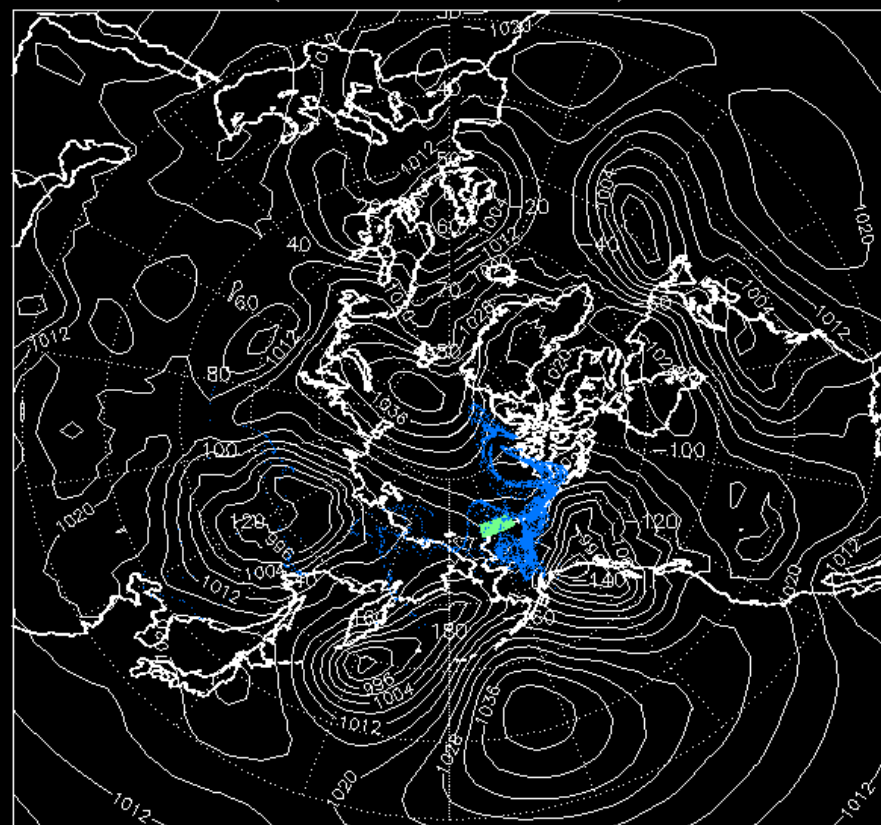
60hr FX iox Cl= 12.0000 max= 404.559
RAQMS_20080414_00Z_60hr_fcst_rdf_curtain_arcpac.dat





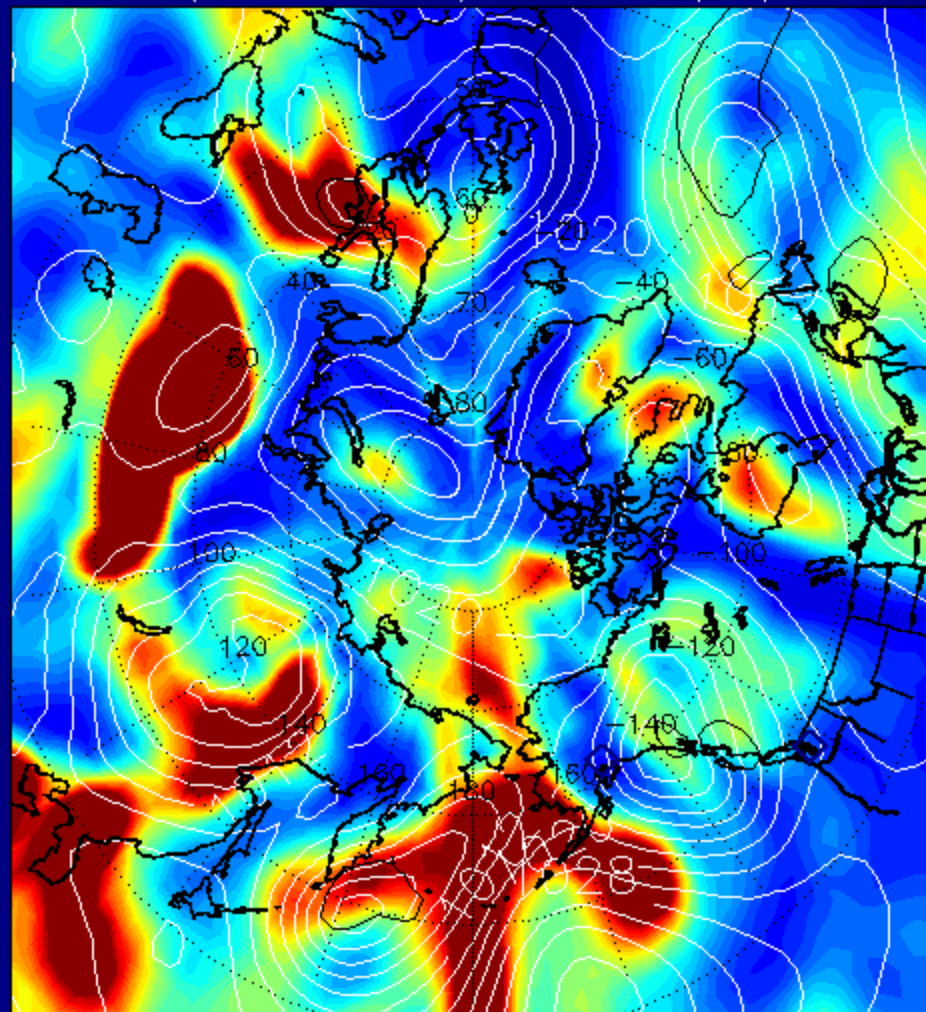
Long range outlook

2008041300 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



AOD Total Aerosol 00Z 20080413

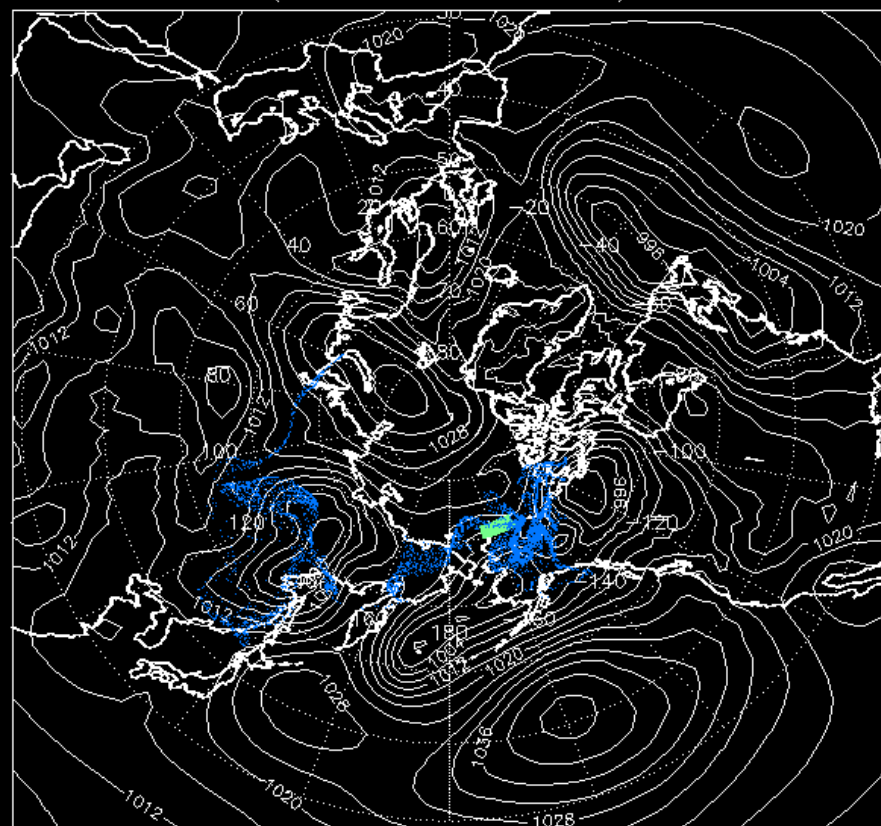
(MSL Pressure Contoured/95% Convective Precip=Red)



0.0 0.2 0.4 0.6 0.8 1.0

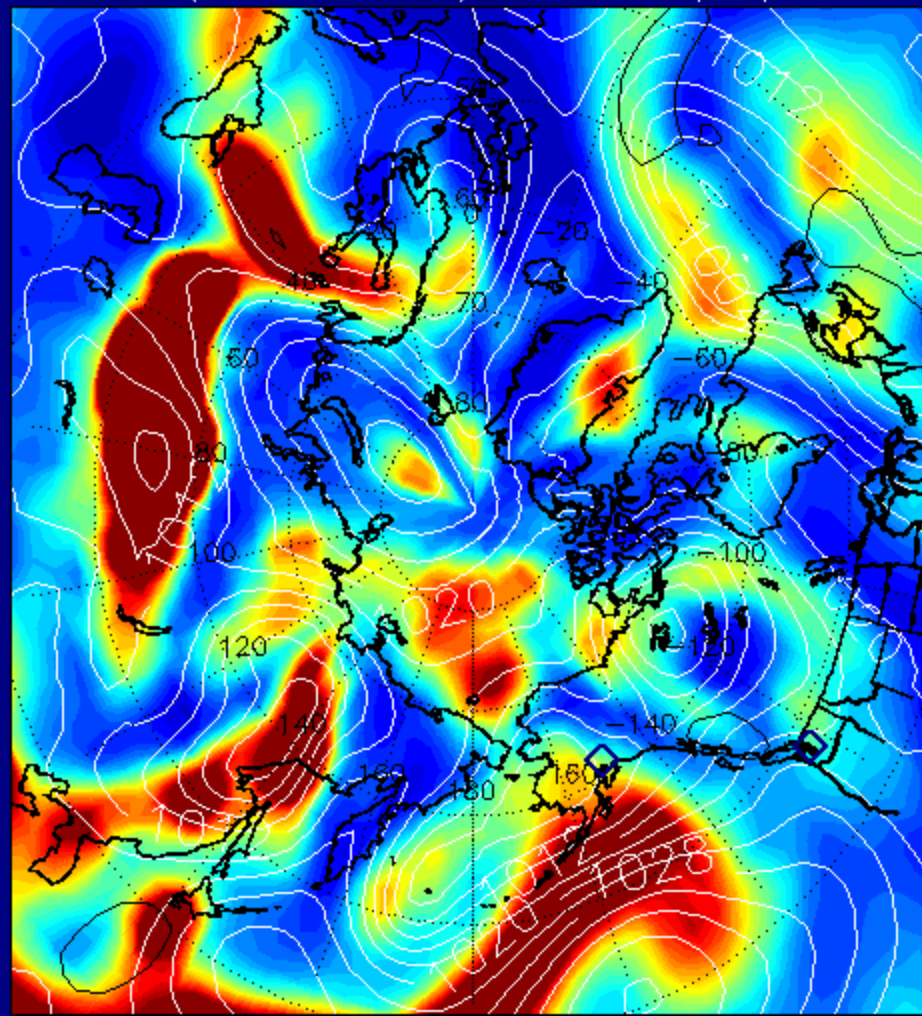
RAQMS₆ 24hr ASSIM + 36hr Fx Initialized 12Z 20080410

2008041400 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



AOD Total Aerosol 00Z 20080414

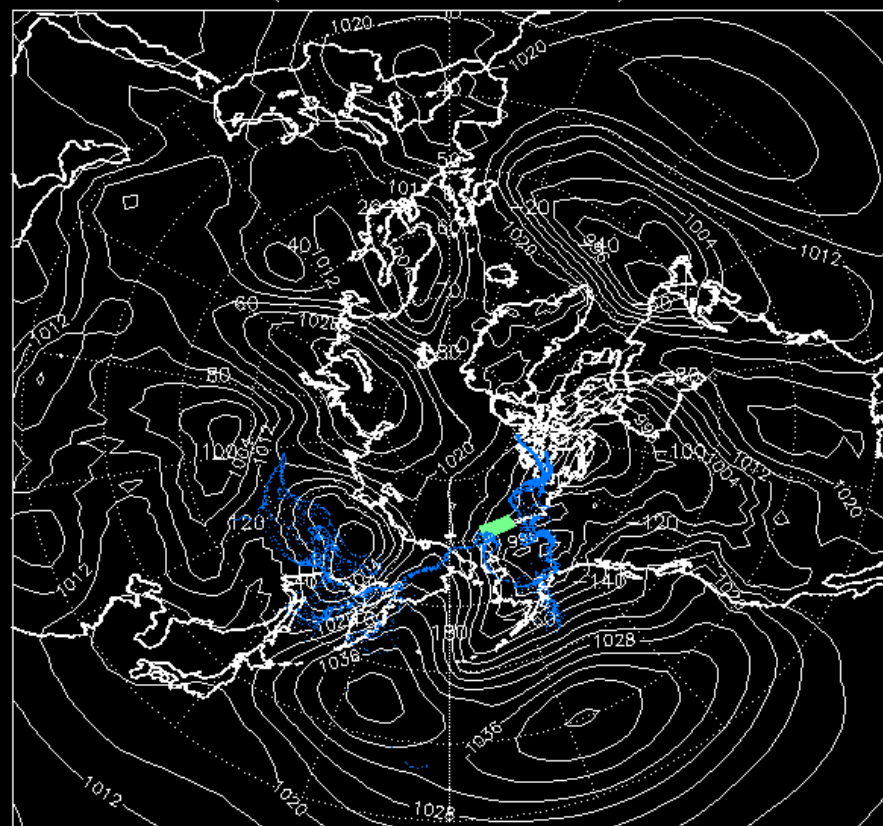
(MSL Pressure Contoured/95% Convective Precip=Red)



0.0 0.2 0.4 0.6 0.8 1.0

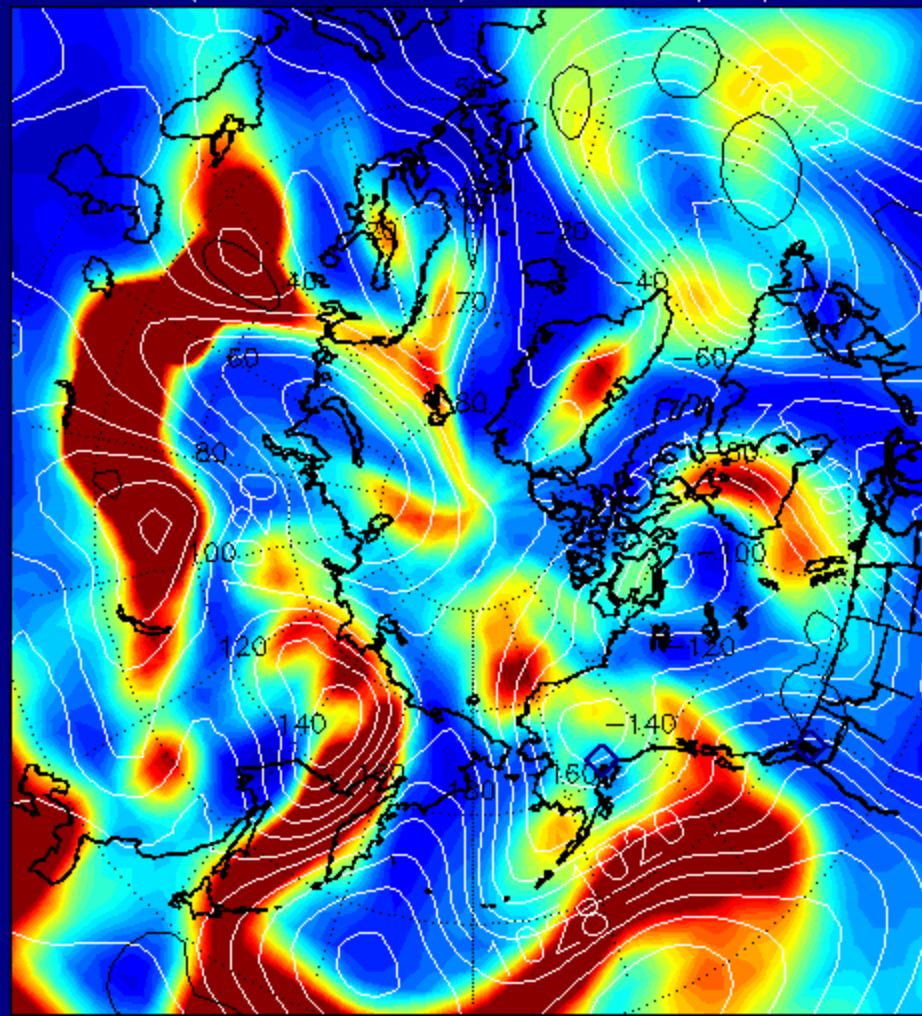
RAQMS₆ 24hr ASSIM + 60hr Fx Initialized 12Z 20080410

2008041500 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



AOD Total Aerosol 00Z 20080415

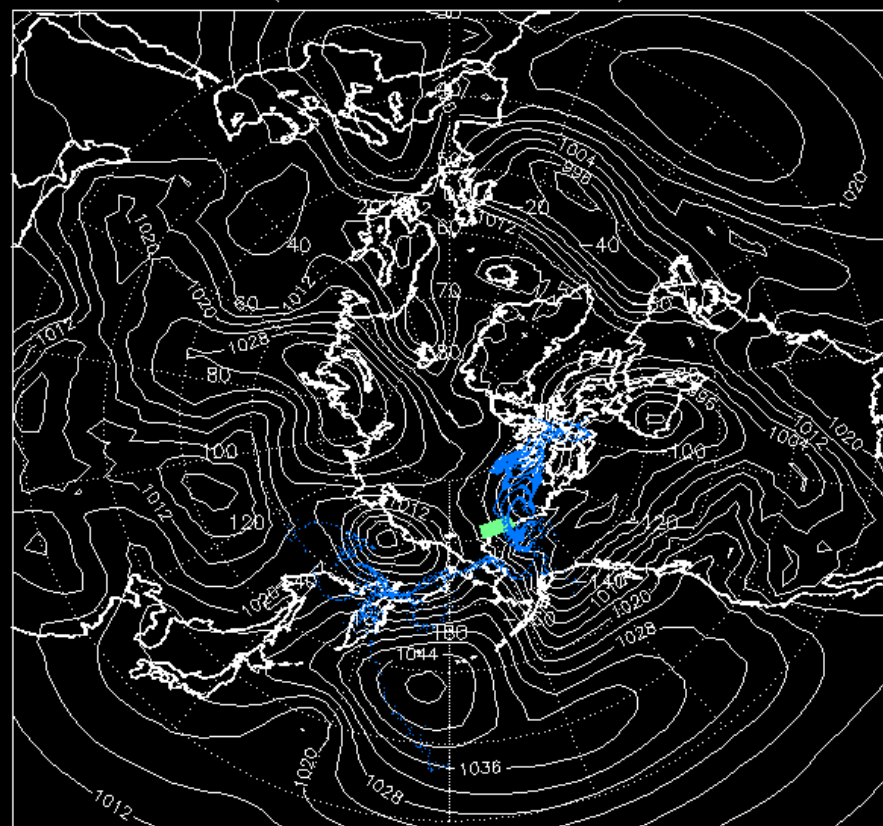
(MSL Pressure Contoured/95% Convective Precip=Red)



0.0 0.2 0.4 0.6 0.8 1.0

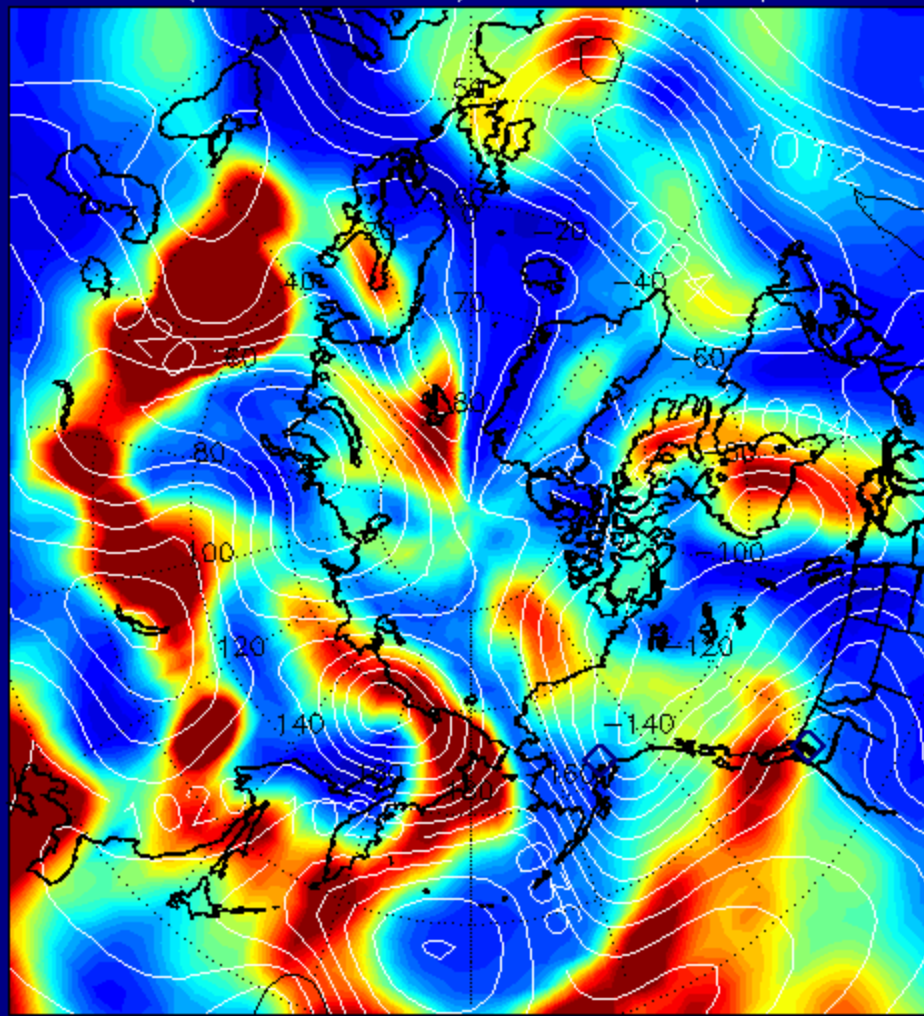
RAQMS₆ 24hr ASSIM + 84hr Fx Initialized 12Z 20080410

2008041600 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



AOD Total Aerosol 00Z 20080416

(MSL Pressure Contoured/95% Convective Precip=Red)

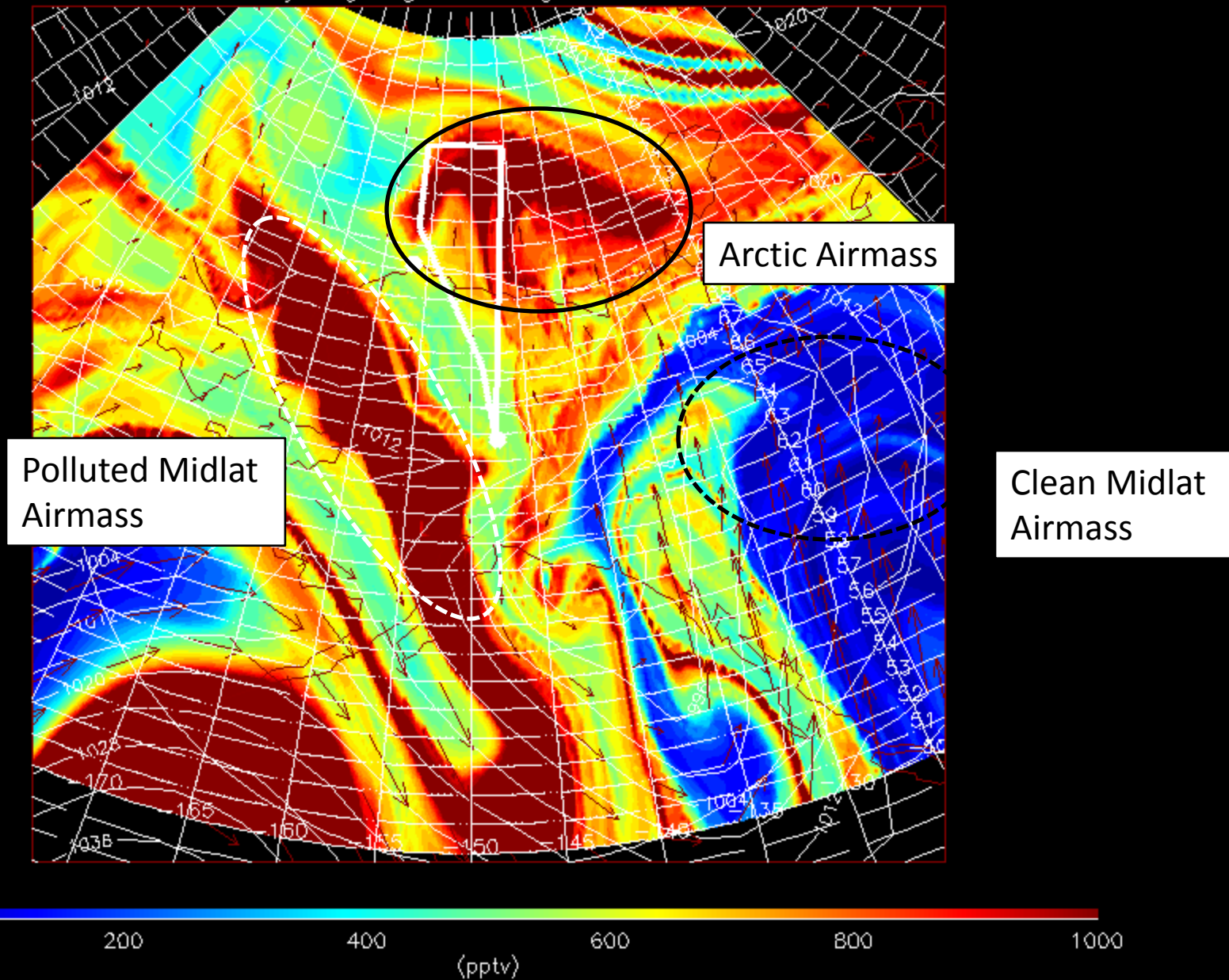


0.0 0.2 0.4 0.6 0.8 1.0

RAQMS₆ 24hr ASSIM + 108hr Fx Initialized 12Z 20080410

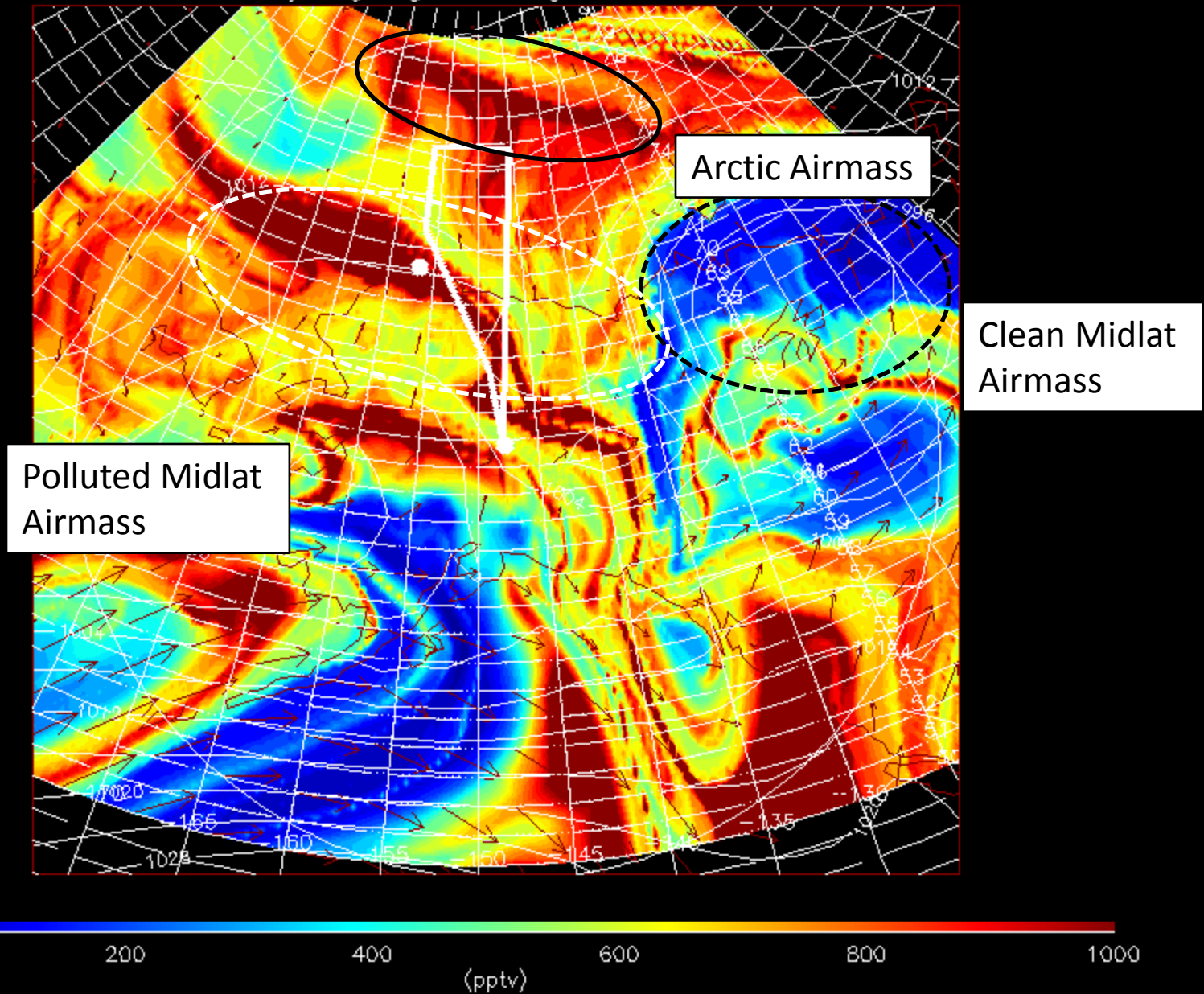
Sat Afternoon

3km 5-day Lagrangian Averaged SO₄ 2008041300



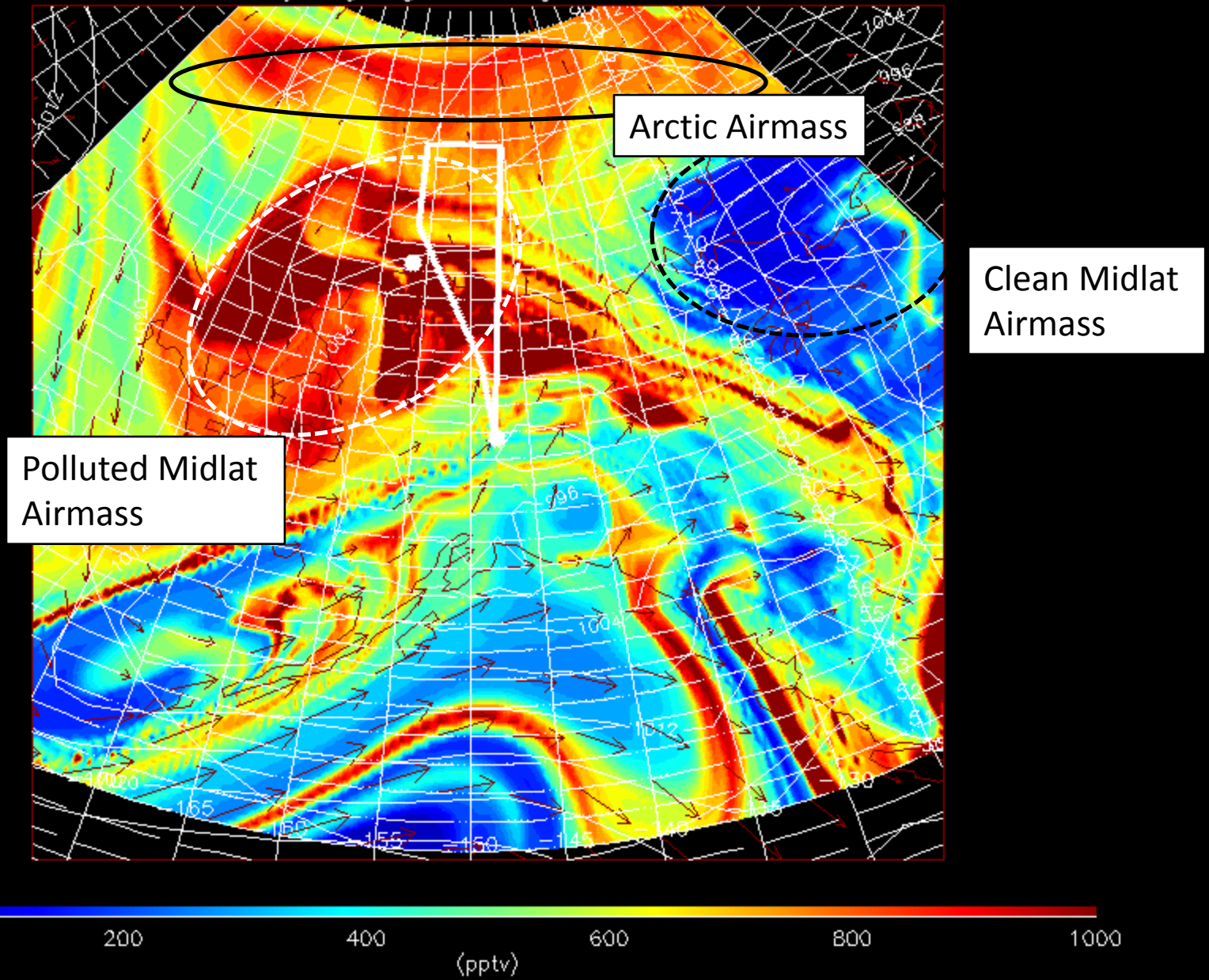
Sun Afternoon

3km 5-day Lagrangian Averaged SO₄ 2008041400



Mon Afternoon

3km 5-day Lagrangian Averaged SO₄ 2008041500



Tue Afternoon

3km 5-day Lagrangian Averaged SO₄ 2008041600

